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A comparison of alternative models of the etiology of communication apprehension

Weisberg, Judith Ann, Ph.D.
The Ohio State University, 1990

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A COMPARISON OF ALTERNATIVE MODELS OF THE
THE ETIOLOGY OF COMMUNICATION APPREHENSION

DISSERTATION

Presented in Partial Fulfillment of the Requirements
for the Degree Doctor of Philosophy in the
Graduate School of The Ohio State University

By

Judith Ann Weisberg, A.B., M.A.

* * * * *

The Ohio State University
1990

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Advisor
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To My Husband

My Son

My Parents
ACKNOWLEDGMENTS

Deep appreciation is due my adviser, Dr. Laura Stafford for her encouragement and prodding, her incisive observations, and her friendship. Special thanks go to Professor Don Cegala for his careful readings, his thoughtful comments, and his exciting classes. Sincere thanks also go to Dr. Rebecca Kantor for her special assistance in designing and piloting the child interview.

A special thank you is due three former professors. Dr. Alan Sillars piqued my interest in both research and family communication. Being involved in his many research projects was an especially important and enjoyable part of my graduate education. Dr. L. E. Norton chaired the Speech Department at Bradley University that caught and nurtured my interest in communication. Dr. Norton's demandingness, concern, personal integrity and commitment to the discipline provided a model for faculty and students in his program to emulate. Dr. William Brown was twice the right professor at the right time. As the most stimulating and demanding young professor at Bradley, he encouraged students to achieve their best and then to push on to yet higher goals. To renew our association
again at OSU was one of the unanticipated rewards of graduate school.

My husband and son deserve immeasurable thanks and appreciation for their support and patience over the decade of my graduate career. They shared my successes and frustrations, listened to explanations of interesting new ideas, and coped when life was hectic. Most importantly, they made the decade worthwhile.

To my parents who have continually listened, supported, loved, and sacrificed, much gratitude is due. Appreciation is also due to the scholars who permitted their tests to be used for the parent questionnaire. Authors who gave permission for their work to be used include the Schludermanns, M. Lorr and E. C. Stefic, R. D. Strom, D. J. Cohen and E. Dibble. Special thanks is due to Dr. R. R. Abidin for permission to use the Parenting Stress Index.
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Studies in Interpersonal Communication
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CHAPTER I
COMMUNICATION APPREHENSION IN EARLY CHILDHOOD

Overview

After centuries of concern and more than fifty years of research on Communication Apprehension (CA) and related constructs (reticence, shyness, stage fright, unwillingness to communicate, speech anxiety, audience anxiety, interpersonal anxiety, heterosexual anxiety, quietness, and social anxiety), there was a need to examine the assumptions surrounding the origins of CA. CA is generally defined as "an individual's level of fear and/ or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1977a). Current CA research has focused primarily on identification of apprehension among adolescents, college students, and adults; its correlation with other behaviors; and its remediation at the secondary and college levels. This project explored the relationship between maternal attitudes and self-reported parenting behaviors and the presence of CA in young children.
While CA is not a life threatening problem, it is a serious research area as it affects the quality of life and restricts the choices of apprehensive persons (Haynes-Clements & Avery, 1984; Schelver & Gutsch, 1983). Additionally, CA afflicts a large number of people. Research across a variety of populations suggests that about 20% of the population (McCroskey, 1976) is apprehensive about communicating in most situations while about 80% of the population is shy at some time in their lives (Zimbardo, 1977).

A number of test instruments have been developed for identifying CA, but most have focused on adolescent and adult populations. In the communication discipline, there were few studies of the reticent child (Comadena & Prusank, 1988; Garrison & Garrison, 1979; McCroskey, Andersen, Richmond, & Wheeless, 1981 are exceptions). In other disciplines such as psychology and social work, there have been some studies of reticent or withdrawn children (for example, Daniels & Plomin, 1985; Zimbardo, 1977), but not many of these focused on reticence in early childhood (pre-school). An exception is Zimbardo's (1977) study of shyness which included very young participants.

Because the bulk of research has examined adolescents and adults, this project focusing on interpersonal interactions in early childhood had several advantages:
First, it expanded understanding of the etiology of CA by testing current theory on an age group that has been largely ignored but one which is assumed to be important in the development of CA. Second, it explored the contribution of interpersonal relationships to the development and maintenance of CA instead of focusing on CA as an individual personality deficit. Third, by identifying specific maternal attitudes, behaviors, or styles of interaction problematic to the communication development of young children, it permits the designing of intervention strategies for implementation in early childhood. Although no interventions are developed as part of this study, requirements for such interventions are explored. As a result of this study, interventions would be likely to involve the mother-child system in contrast to current interventions which focus entirely on the apprehensive person. Intervening before the apprehension and its related behaviors have been reinforced by a decade of unsuccessful interactions and failed relationships might be more successful in promoting change (Abidin, 1986; Comadena & Prusank, 1988; McCroskey & Payne, 1984; Rubin, Graham & Mignerey, 1990).

This project involved interviewing preschool children, surveying their parents and their teachers and videotaping parent-child interactions. The videotaped interactions were not analyzed for this dissertation, but
the child interviews and parent and teacher surveys were analyzed. The goal of this research was to understand more fully the etiology of communication apprehension. A secondary goal was to identify communication problems that could become the focus of future interventions. No interventions were developed at this time, but factors contributing to the development of communication apprehension were identified that might be amenable to intervention.

As might be expected of a research area that has sustained interest for more than forty years, there is much conflicting research pertaining to CA. This current research project certainly did not answer nor even examine all these controversies. What the current research did was to collect and to begin to test some of the assumptions about the onset, development, and maintenance of CA.

Current Assumptions

The model presented below was developed from a review of existing research. The model suggests that CA is a syndrome involving cognitive-affective and behavioral problems. The discussion that follows will reveal that while cognitive-affective problems are always present for CA, behavioral problems are present only sometimes. The model further suggests that factors contributing to the
development of CA are found in biological influences, traumatic experiences, reinforcement problems, and negative expectations about communication. Because the preschool child is greatly influenced by his or her family (Abidin, 1986; Belsky, 1981; Cohen, Dibble, & Grawe, 1973; Hetherington, 1984; Maccoby, 1980; McDermott & Greenberg, 1984), the family's history, maternal attitudes, and the mother's self reported parenting behaviors were examined for factors facilitating or impeding the development of CA in young children.

CA is the label applied by researchers to the cognitive-affective patterns and the behaviors that constitute CA. Because the cognitive-affective and behavioral elements are considered part of the definition of CA, they will not be the focus of the current research itself. They will be considered in the literature review only to clarify the nature of CA. Future research on the presence of CA in young children might profitably discuss the cognitive-affective and behavioral problems these children face.
The Model as an Interactive System

It is nearly impossible to establish the direction of causality for most of the factors related to CA (Bond, 1984; McCroskey, 1982b; Mash, 1984). For example, if CA is an output or an effect, it might be studied as the result of a skills deficit or of problem cognitions. However, if CA is an input variable, it directly affects behaviors and cognitions. For example, as an input, CA might diminish the amount of communication or restrict the quality of cognitive processing. Because it is simultaneously both an input and an output, CA is an
interactive variable as are the other elements in the model. CA is simultaneously acting on and being acted upon by everything else in an interpersonal transaction (Siegel & Cunningham, 1984; Wilmot, 1980).

In the first few sections below, the nature of CA is explored, while in the later sections the literature review focuses on the development of CA. It is from this latter discussion that the research questions and hypotheses were drawn. The examination of the model will begin with CA itself. In considering the nature of CA, CA is defined, the relationship between CA and similar constructs is explored, and the relationship of CA to both cognitive-affective and behavioral problems is described.

The Nature of Communication Apprehension

CA Defined

In the overview, CA was defined as "an individual's level of fear and/or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1977a). Apprehensives have reported a variety of unpleasant feelings associated with the act of communication in addition to fear and anxiety. Feelings such as embarrassment, shame, and dread (Biggers & Masterson, 1984; Booth-Butterfield & Gould, 1986; Burgoon, 1976; Buss, 1980; Lederman, 1983; McCroskey,
were experienced during communication. Persons with CA disliked talking (Garrison & Garrison, 1979) and found listening a more pleasant activity (Lederman, 1983).

While self report measures of CA (for example, Garrison & Garrison, 1979; McCroskey, 1982b) concentrated on cognitive and affective elements, observer identifications of CA, by necessity, concentrated on behavioral manifestations (Christoff, Scott, Kelley, Schlundt, Baer, & Kelly, 1985; Zimbardo, 1977). Emphasizing only one of these three elements, the cognitive, affective, or behavioral, has led to the proliferation of terms and overlapping constructs referring to CA.

Social anxiety has been considered to be the global construct that subsumed the others (Buss, 1980; Leary, 1983b, Porter, 1979; Snyder, Smith, Augelli & Ingram, 1985). Social anxiety has been defined as anxiety due to the evaluativeness of social situations (Leary, 1983b). The definition of CA as fear or anxiety associated with communication does not clearly distinguish between CA and social anxiety since social anxiety represents discomfort in social situations, and since most social situations involve communication. However, the literature has treated CA as the more particular term since it deals only with anxiety in communication situations (for
example, Buss, 1980; Leary, 1983b; Porter, 1979). Since this convention is well established, communication apprehension will be understood to be a subcategory of the broader category of "social anxiety."

Problems arise in attempts to carefully differentiate CA from related terms because of a lack of clarity in conceptualization and in research focus. A few of the many terms focus on either behavioral manifestations such as avoidance and withdrawal (to be discussed later) or on feelings and cognitions (to be discussed later) associated with communication while other terms have focused on both behaviors and cognitions. For example, CA is conceptualized as a cognitive variable that summarizes a person's attitude towards his/her own communication experiences (McCroskey, 1977b). Here the emphasis is on cognitions rather than behaviors. However, McCroskey arrived at the conceptualization of CA from considering the behavior of the "Quiet Child" (McCroskey, 1977b). The shyness variable involves both behavior observable by others and cognitions about feelings and behaviors (Zimbardo, 1977). Further complications occurred when research focusing on anxiety in specific situations developed separate terms for each such as audience anxiety, classroom communication apprehension, interpersonal anxiety, heterosexual anxiety, and public speaking anxiety.
Attempting to integrate the overlapping terms and to develop a coherent theoretical domain has resulted in the expansion of the CA domain to include cognitive, affective, and behavioral elements (Biemer, 1983; Burgoon & Hale, 1983a; Green & Sparks, 1983). Kelly (1982) synthesized the overlapping terms into a larger construct involving both diminished amounts of oral communication and discomfort during communication. Daly and Stafford (1984) concluded that the several constructs "tap a single, broad disposition" (p. 126). In keeping with the synthetic approach, this review has followed the convention of using the various terms interchangeably. However, all the participants designated as highly apprehensive in this study reported that they disliked communication in some or most situations, and they reported this dislike more frequently than their peers. This report of disliking communication operationalizes McCroskey's (1977b) description of CA as a "summary attitude" toward some communication experiences. In addition to self reporting disliking some communication situations, some, but not all, high CA children in this study were described by mothers and/or teachers as displaying communication related avoidance and withdrawal behaviors. Thus, the disliking of communication was always present in participants reporting high CA, but
avoidance or withdrawal behaviors may not always have been observable.

Thus, while CA is considered a sub-category of social anxiety involving feelings of fear and discomfort associated with communication, some research (for example, Biemer, 1983; Kelly, 1982) has combined these feelings of fear and discomfort with behavior involving diminished amounts of oral communication to produce a CA syndrome that involves cognitions, affect and behavior. The cognitions, affect, and behaviors associated with CA are explored in the next sections.

**Cognitive-affective Problems and CA**

Cognition is associated with information acquisition and processing (Cacioppo, Harkins & Petty, 1981; Petty, Ostrom & Brock, 1981; Reed, 1982). Affect refers to the feelings a person associates with communication (Ostrom, 1968). Although the distinctions between cognitive and affective dimensions are sometimes emphasized (Reed, 1982), writing on social anxiety frequently combines the two (Beck, 1976; Roloff & Berger, 1982). Leary (1983b) is most explicit in this combination, declaring that social anxiety is a "cognitive-affective" construct. A similar style has been adopted here.

Although many cognitive-affective problems could potentially be associated with CA, only a few have been
researched. Consequently, those four that have been extensively explored are described here.

Cognitive-affective problems associated with CA are (1) the inability to construct images of appropriate communication behaviors, (2) the distortion of cognitive processing, (3) the interpretation of physiological arousal as negative, and (4) development of low self esteem.

(1)  Apprehensives have difficulty imagining appropriate communication behavior (Asendorpf, 1986; Booth-Butterfield, 1986; Burleson, Applegate, Burke, Clark, Delia, & Kline, 1986; Green & Sparks, 1983). This inability to visualize effective communication may include a lack of knowledge of communication strategies and of others' motives and feelings (Asendorpf, 1986; Burleson et al., 1986); cognitive interference due to fear of evaluation (Burgoon & Hale, 1983b; Buss, 1980; Frances & Nemiah, 1983), anxiety about meeting others' expectations (Ayres, 1986; Bond, 1984; Stacks & Stone, 1984), extreme physiological arousal (Biggers & Masterson, 1984; Kagan & Reznik, 1986; Turner & Beidel, 1985); a lack of knowledge that communication can be managed or improved (Comadena & Prusank, 1988); or a self focus that precludes awareness of others (Cheek & Stahl, 1986; Leary, 1983b; Ludwig & Lazarus, 1983; Zimbardo, 1977). Through their work with the Penn State Reticence
Program, Phillips and Metzger (1973) have described three cognitive problems associated with reticence that suggest problems constructing images of appropriate communication: an inability to describe effective communication, an inability to recognize situationally appropriate behavior, and an inability to recognize appropriate relationships between actors. The requirement for continual adaptation to interaction partners and specific situations exacerbates the difficulty of imagining effective communication behaviors (Booth-Butterfield, 1986; Phillips & Metzger, 1973).

Remedying this inability to imagine appropriate communication has been the focus of several intervention programs to ameliorate CA. Attempts were made to increase the apprehensive's knowledge of appropriate behavior by explicitly examining goals and purposes of interactions, developing strategies for goal achievement, exploring situational influences (Ladd & Mize, 1982) and proposing alternate behaviors for achieving communication goals (Biemer, 1983). A typical intervention would include exploring these just mentioned factors, enacting the planned communication behaviors, and evaluating the communication as enacted (Biemer, 1983; Finch & Hops, 1982; Rose, 1982).

Whatever the reason for the inability to visualize effective communication, that failure contributes to
difficulty in the enacting of competent communication. The effect is similar to going on a long automobile trip without a map. Having no mental map of appropriate or effective communication is associated with feelings of anxiety.

(2) Apprehensives are likely to display distorted cognitive processing characterized by less cognitive complexity (Neulip & Hazelton, 1985; Ziller & Rorer, 1985), more cognitive interference (Green & Sparks, 1983; Ludwig & Lazarus, 1983), and less creativity (Beatty, 1988; Burgoon & Hale, 1983b; Cheek & Stahl, 1986). Diminished cognitive complexity translates into a decreased interest in other people (Ziller & Rorer, 1985). Decreased interest in others may also be related to CA's having less knowledge and understanding of others (Andersen & Coussoule, 1980; Finch & Hops, 1982), to their inability to interpret behavioral cues (Burleson et al., 1986; Phillips & Metzger, 1973), and to a limited knowledge of psychological explanations for behavior (Anderson & Arnoult, 1985). Whatever the cause, diminished cognitive complexity is problematic because it is likely to diminish the number of alternatives from which an apprehensive person may select explanations for human behavior (Beatty, 1988), and it may restrict the potential success of treatments of CA which require
cognitive change. In addition to diminished cognitive complexity, high apprehensives' distorted cognitive processing is associated with the production of fewer ideas and of less creative ideas than non apprehensives (Beatty, 1988; Burgoon & Hale, 1983b; Cheek & Stahl, 1986; Comadena, 1984; Neulip & Hazelton, 1985; Ziller & Rorer, 1985).

(3) Physiological arousal is likely to be interpreted negatively by persons with high CA (Beatty, 1984, p. 99). People who are highly apprehensive about communication describe themselves as more physiologically aroused than do non apprehensives (Biggers & Masterson, 1984; Borkovec, Fleischmann, & Caputo, 1973; Bowers et al., 1986; Burgoon & Kopper, 1984; Buss, 1984; Fatis, 1983; Turner & Beidel, 1985). Additionally, while persons with low anxiety may initially experience some heightened arousal, their arousal declines as interaction progresses in contrast to the continued heightened arousal of the highly anxious individual (Borkovec et al., 1973). Self report scales operationalize this arousal as rapid breathing, rapid heart rate, shaking knees, tenseness, nervousness, trembling hands, strained posture, dry mouth, tingling sensations, and butterflies (Booth-Butterfield & Gould, 1986; Burgoon, 1976; Daly, 1977; McCroskey, 1982b; Phillips, 1968; Slivken & Buss, 1984; Zimbardo, 1977).
This arousal may or may not be measurable or obvious to observers. Some studies have found physiologically measurable differences between high and low CA persons. For example, highly inhibited (avoidant and withdrawn) children were found to have lower thresholds for physiological arousal as measured by heart rate and pupil dilation (Kagan & Reznik, 1986). Both the difficulty in measuring physiological arousal and the finding that high arousal is characteristic of some but not all apprehensives (Turner & Beidel, 1985) have led to research results on the issue of arousal that are inconsistent and contradictory (see Beatty, 1984; Borkovec et al., 1973).

The contradictions and inconsistencies arose when the research focused on whether the heightened arousal was measurable. Focusing on the measurability of arousal obscures the importance of the person's cognitive construction of the arousal (Beatty, 1984). Persons who experience a similar arousal but construe it as "exhilarating," a positive feeling, are unlikely to suffer from high CA.

The issue of heightened physiological arousal has been the focus of three treatments for CA. Two of the three attempt to diminish the arousal, and the third attempts to substitute a more positive interpretation of the arousal for the negative one. In "desensitization"
training (Harris & Brown, 1982), relaxation exercises paired a pleasant experience with an anxiety producing experience in order to block physiological arousal (Biemer, 1983; Butler, Cullington, Munby, & Gelder, 1984; Hekmat, Lubitz, & Deal, 1984; Pederson, 1980). In a second type of intervention, apprehensives were asked to visualize themselves successfully participating in an anxiety producing communication situation (Ayres & Hopf, 1985, 1990). These imaginings permitted students to mentally habituate to the stressful activity, and, thus, to lessen the arousal. A third treatment (Slivken & Buss, 1984) permitted the arousal to remain but attempted to provide a new attribution or label for it. Through an education program, apprehensives were urged to label their arousal as a natural body reaction to prepare the body for action.

(4) Apprehensives tend to develop low self esteem (Lederman, 1983; Porter, 1979; Zimbardo, 1977). High CA's were likely to underestimate their own social skills (Green & Sparks, 1983; Lazarus, 1982; Phillips & Metzger, 1973; Snyder et al., 1985; Zimbardo & Radl, 1981) and to see themselves as less popular (Bond, 1984), less friendly, less sociable, and more passive (Zimbardo & Radl, 1981) than were non apprehensives.

A substantial body of research has related cognitive-affective problems to communication
apprehension. Research in both treatment and diagnostic domains identified as problematic the areas of faulty images of effective communication, distorted cognitive processing, the negative evaluation of physiological arousal, and low self esteem. The next section of the paper focuses on behavioral problems associated with CA.

**Behavioral Problems and CA**

Three types of behavioral problems are associated with communication apprehension: (1) avoidant and withdrawn behaviors, (2) passivity and (3) skill deficits.

(1) Avoidance of and withdrawal from communication are behaviors associated with CA (Burgoon, 1976; Burgoon & Hale, 1983b; Buss, 1980; McCroskey, 1977b, 1982b; Phillips, 1968; Stacks & Stone, 1984). Avoidance and withdrawal may include diminished verbalness (Borkovec et al., 1973; Burgoon, 1977; McCroskey, 1977b, 1980), limited participation in communication networks (Burgoon, 1977; Buss, 1984; Gilmartin, 1985; Zimbardo & Radl, 1981), and lack of genuine encounter with others (Burgoon & Koper, 1984; Buss, 1980; Harris, 1984; Phillips, 1968). For example, in small groups, apprehensives are less likely to give or to seek information (Burgoon, 1977; Stacks & Stone, 1984) or to self disclose (Harris, 1984; Phillips, 1968; Stacks & Stone, 1984). Apprehensives may
have fewer friends and participate in fewer extracurricular activities (Asendorpf, 1986; Burleson et al., 1986; Christoff et al., 1985).

Avoidance of communication may both contribute to and result from the inability of high CA's to construct images of effective communication. Likewise, the elevated physiological arousal associated with CA may encourage people to avoid communication in order to avoid the uncomfortable arousal. Avoidance contributes to diminished communication skills because of fewer opportunities to engage in communication.

(2) Passivity is associated with CA (Anderson & Arnoult, 1985; Buss, 1980; Zimbardo, 1977). Women are especially likely to manifest their reticence through passivity (Buss, 1980). Persons with high CA are less likely to initiate interactions (Anderson & Arnoult, 1985; Bowers et al., 1986; Christoff et al., 1985; Fatis, 1983) are less persistent (Anderson & Arnoult, 1985; Bowers et al., 1986), and are more indecisive (Phillips & Metzger, 1973).

Passivity may both contribute to and result from the belief that one has little impact on the surrounding environment or on the events in which one participates. The failure to initiate actions to control the environment may lead to anxiety, fear, and physiological arousal in interpersonal situations because one cannot
work for a desired outcome; one can only hope that such outcomes will occur.

(3) Poor communication skills are also associated with CA (McCroskey, 1977a; Snyder et al., 1985). Behavioral disorganization has been described as an indicator of CA. Behavioral disorganization includes tremors, low speaking voice, silence, stuttering, increased perspiration, and diminished eye contact (Booth-Butterfield & Gould, 1986; Borkovec et al., 1973; Burgoon & Koper, 1984; Buss, 1980; Daly, 1977; Fatis, 1983; Slivken & Buss, 1984; Turner & Beidel, 1985). In general, apprehensive students are seen as "maladroit" (Phillips & Metzger, 1973).

Although diminished amounts of communication have been typically associated with CA, McCroskey (1982b; McCroskey & Beatty, 1986) speculated that CA may also be associated with "overcommunication" in which the anxious communicator may build a wall of words as a barrier to others. The finding that as apprehension increases so does the number of sentences (Burgoon & Hale, 1983b) suggests a possible confirmation of this concept.

A number of skill areas have been found to be problematic for persons with CA. Being responsive to others is an especially difficult area for apprehensives. Neither college students nor very young children who are apprehensive provide the cues necessary for others to engage them in satisfying communication (Andersen &
Coussoule, 1980; Burleson, 1984; Burleson et al, 1986; Finch & Hops, 1982; Phillips & Metzger, 1973). Not only do apprehensives fail to provide cues for others, they fail to utilize the cues provided by their interactive partners (Phillips & Metzger, 1973). Limited repertories of skills (Rose, 1982), delayed acquisition of a skill (Daly & Friedrich, 1981), performance deficits (Ladd & Mize, 1982), language deficits (Finch & Hops, 1982), an inability to initiate and maintain conversation (Finch & Hops, 1982), and an inability to provide feedback and praise (Finch & Hops, 1982) are all associated with CA.

Improving the quality of communication skills was the goal of some interventions to diminish CA. In these programs, students were given skills training to counteract avoidance and withdrawal, passivity, and skills deficits (Biemer, 1983; Conger & Keane, 1981; Christoff et al., 1985; Harris & Brown, 1982; Haynes-Clements & Avery, 1984; Ladd & Mize, 1982). For example, the PEERS Program (Finch & Hops, 1982) was designed to teach children social skills such initiating, responding to, and maintaining conversations. Incorporating units on skills into the regular classroom or the communication classroom has been the most common form of CA remediation (Booth-Butterfield, 1986; Pedersen, 1980; Stacks & Stone, 1984; Watson & Dodd, 1984). Simply providing the high CA person with more
communication opportunities is one treatment for CA that has been instituted in elementary and secondary schools (McCroskey, 1976, 1977b). However, McCroskey (1977b) argues that requiring a reticent student to give more oral performances may exacerbate rather than cure the apprehension. The usefulness of increased oral performance is likely to be enhanced after the CA problem has been attacked.

While it is inexpensive and relatively easy to develop and institute a skills training program, actually enhancing communication skills is difficult. Indeed, the results of behavioral training are quite mixed (Finch & Hops, 1982). There are two reasons for this difficulty. First, the skills deficits themselves hamper learning about communication skills. Children with skill deficits may be doubly handicapped because they lack both the skills to enact competent communication as well as the skills to benefit from instruction. Poor verbal abilities coupled with limited repertories of behaviors diminish the effectiveness of skill training (Finch & Hops, 1982; Rose, 1982). Furthermore, particular deficits may diminish the usefulness of particular techniques for increasing skills. For example, modeling as a training technique has not been successful with all children (Swetnam, Peterson, & Clark, 1982). Apprehensives who fail to provide interaction cues to others or to make use
of the behavioral cues that others provide may not be able to perceive what is being modeled.

Second, focusing training exclusively on skills suggests that the communication problem occurs in the area of performance alone. Because actualizing a communication behavior requires knowledge, ability, and enactment, performance problems may be more than simple enactment problems (Ladd & Mize, 1982; McCroskey, 1984). For example, earlier discussions have suggested that cognitive problems might contribute to behavior problems related to CA.

Because enactment of communication is a skill, less practice contributes to reticence. Reticence may also contribute to less practice as in the previous discussion associating CA with avoidance of and withdrawal from communication. Geographical and social isolation (Buss, 1984; Zimbardo, 1977), abuse and neglect (Hecht, Foster, Dunn, Williams, Andersen & Pulbratek, 1986), and family conflict (Gilmartin, 1985) suppress the amount of communication in which a child is likely to participate. Diminished communication may lead to skill deficits and, hence, to CA. Delayed acquisition of communication skills in childhood may result in CA even though those skills are eventually acquired (Daly & Friedrich, 1981). Poor skills are also likely to contribute to and result from the inability to imagine effective communication.
Thus, examination of cognitive-affective and behavioral problems associated with CA reveals that the cognitive-affective and behavioral elements are inextricably linked to each other and to CA. Assigning a causal order to the three is impossible. Having defined CA and having examined cognitive-affective and behavioral problems associated with CA, it is appropriate to consider the etiology of CA. In the next section, the various claims for the age of onset are examined, and the theories of the development of CA are explored.

The Development of Communication Apprehension

Onset of CA

Research has suggested three potential times for the onset of CA: (1) during infancy (0 to 2 years), (2) during early childhood (ages 4 and 5), and (3) during elementary and middle school reaching a peak during adolescence. These three time frames will be examined in turn, but no frame is exclusive of the others.

(1) The claim of early onset (during infancy, 0-2 years) is largely supported by observation of infant behavior. Those who claim this earliest onset argue for the inheritability of trait CA (for example, Buss, 1980; Kagan & Reznik, 1986; Plomin & Daniels, 1986). The related traits of fearfulness and of low sociability lead to anxiety, fear of novel situations, and withdrawal
from or avoidance of interactions which are all associated with CA. It is the fearful, withdrawn, and anxious behaviors, rather than CA as a cognition, which are studied in infants. These behaviors are observable in the first two years of life. Inhibited behaviors have been found at age two months and have been found to be stable from age two months to kindergarten (Kagan & Reznik, 1986). Anxiousness, fearfulness and withdrawal are observed to onset between four and twelve months (Buss, 1986; Daly, 1977).

Low sociability, fearfulness, anxiousness, and withdrawal are characteristics that the infant brings to interactions; these are not construed as responses that are learned by the infant. The causal mechanism here is genetic inheritance leading to individual predispositions to diminished interactiveness. This early onset claim leads to the conceptualization of CA as a trait, a personality variable that is very resistant to change. However, even the inheritability of the early onset scenario is complicated by interactive influences. Infants with diminished interactivity do not respond well to (i.e., positively reinforce) caregivers during attempted interactions. Responsive children prompt more relaxed, interactive, engaged, and adaptive behaviors from the mother while infant unresponsiveness may lead to maternal disengagement, anxiousness, increased
negativity, and increased control (Mash, 1984; Murray & Trevarthen, 1986). The infant brings certain qualities to an interaction which become system inputs affecting caregiver behaviors toward the infant. These caregiver behaviors in turn reinforce the infant's tendency toward less responsive behavior. Both individual difference variables and interpersonal interaction variables combine to depress the infant's level of interaction and to increase both the infant's and mother's anxiousness.

(2) For the second age group, ages four and five, the evidence again has been largely provided by the observation of the child's behavior and by retrospective studies of adult apprehensives. Teachers and apprehensives themselves claim that CA begins prior to entry into school (Cheek, Carpentieri, Smith, Rierdan & Koff, 1986; McCroskey et al., 1981). While this claim could also be supportive of an argument for infant onset, Buss (1986, p. 41) claims that an important ingredient of CA is missing in infancy and does not appear until age four or five. The missing component is the awareness of the self as a social object available to the scrutiny and evaluation of others. Thus, while a predisposition to withdrawn and avoidant behavior and a recognition of discomfort associated with communication could be present in infancy (0 to 2 years), the awareness of the self as a social object does not develop until later.
For the preschool group, the causal mechanism of CA is discussed in terms of learning theory. Through reinforced quietness, observation of poorly modeled communication, repeated failure to achieve unrealistic communication goals, experiencing unpleasant communication outcomes, failing to habituate to novelty, and diminished opportunities to communicate (all of which will be discussed in detail later), children develop attitudes toward themselves and toward communication that predispose them to CA. Although inherited characteristics may predispose a child to some of these attitudes, the attitudes are developed largely through interaction with other people. Once CA develops, its existence is likely to increase the detrimental impact of each of the contributory factors mentioned above. For example, the child with CA is more likely to be quiet when positively reinforced for being quiet than is the child who is an exuberant extrovert. Because a young child lacks the maturity, experience, and skill to take charge of or to change interpersonal interaction, interpersonal experiences in early childhood may result in fear and anxiety being attached to communication (Bialer, 1961).

(3) The third claim for an onset during school years with a large increase in cases during adolescence is
strongly supported by both self reports and observations of behavior. In this scenario, CA develops with the beginning of school and increases as the child matures. Elementary school is designated as the time of onset of CA in retrospective studies of college students (Cheek et al., 1986; Daly & Friedrich, 1981). Several studies show that older children are more communication apprehensive than younger children (Comadena & Prusank, 1988; McCroskey et al., 1981; Watson, Monroe & Atterstrom, 1984; Zimbardo & Radl, 1981). A jump in CA scores occurs between kindergarten and first grade (about 6 percentage points) and again between fourth and fifth grades (about 2.5 percentage points) (McCroskey et al., 1981) or fourth and sixth grades (Zimbardo & Radl, 1981). An unusually high percentage of seventh and eighth graders report problems with shyness (Cheek et al., 1986). Additionally, Comadena and Prusank, (1988) show an increase in CA of 17% from second to eighth grades.

Again the causal mechanism operating here is learning theory. A variety of causes have been suggested for this increase in CA during school years. The general atmosphere of school (Daly & Friedrich, 1981), a more controlled environment (Bowman, 1984), public correction (Daly & Friedrich, 1981; McCroskey, 1976), peer relationships (Bowman, 1984; McCroskey et al., 1981), and an emphasis on individual striving and responsibility
(Bowman, 1984) have all been offered as explanations for the increased CA. These factors coupled with an increased opportunity for interaction and the increasing importance of peers confirm the likelihood of this documented increase in CA.

In reviewing the literature on the time of onset of CA, one must conclude that no single time of onset accounts for all the research on CA. It is possible that all sufferers of CA did inherit a tendency toward low sociability which was reinforced during infancy and exacerbated during pre-school years, at entry into school, and during adolescence. Indeed some shy adults do confirm this very scenario and claim that they have always been shy (Cheek et al., 1986; Lederman, 1983). However, other scenarios are also plausible. Through infancy and early childhood a child may have readily interacted with other children and adults only to become a quite child when confronted with large environmental change such as entry into daycare, preschool, or public school. Lesser-Katz's (1986) study of Head Start programs confirms the existence of this scenario. Finally, a child who has interacted happily and easily with others may find during adolescence that s/he is unable to meet peers' standards for acceptance and may develop a severe apprehension about interacting with others (Comadena & Prusank, 1988). All three times are
possible (Cheek & Buss, 1986; Plomin & Daniels, 1986). Only the research supporting infant onset contains an implicit argument about the persistence and stability of CA across the life cycle. These researchers claim that the earlier the onset of CA, the more stable it is likely to be (Buss, 1986; Plomin & Daniels, 1986). The possibility of multiple onset times leads to the most basic research question:

Q1: Do preschool children report fear and anxiety associated with oral communication?

If there are indeed three different periods of CA onset and several potential "causes" for CA, a single explanation for the development of CA is unlikely. Although the circumstances leading to CA may different, the apprehension experienced is similar (Burgoon & Koper, 1984; Buss, 1986; Cheek et al., 1986; Lesser-Katz, 1986; McCroskey, 1977b). The next section will explore the four theories that have been advanced to account for the occurrence of CA.

**Theories of Development**

Four theories of the development of CA have been advanced: biological influences (Buss, 1980; Gilmartin, 1985; Daniels & Plomin, 1985), trauma (Zimbardo & Radl, 1981), reinforcement (Daly, 1977; McCroskey, 1980) and expectancy theory (McCroskey, 1984).
Biological Influences

One explanation for the development of CA centers on biological influences. Research on inherited aspects of CA is difficult because of the need to exclude or control learned effects. In an attempt to eliminate many learning effects, this research is usually conducted with infants, but since the self reporting of CA requires a functioning communication system, research in this area has usually concentrated on a related construct, sociability. Sociability is defined as the tendency to prefer being with others to being alone (Daniels & Plomin, 1985, p. 118). In a study comparing adoptive and intact families, infant sociability was found to be related to mothers' self reports of shyness, low sociability, and introversion (Daniels & Plomin, 1985). Although the relationships were stronger for the intact families, the influence of heredity was substantiated by the finding of a significant relation between the infant and the biological mother's sociability even for those infants who had been given up for adoption. However, the stronger relationship for intact families gave credence to both heredity and learning as influences on CA.

In addition to sociability, other inherited factors are likely to be associated with CA. Buss (1980) found that fearfulness was likely to be inherited. Gilmartin (1985) described extremely shy people as having an
"inhibition gene" that permitted them to condition faster than other people. While Gilmartin's claims were asserted rather than supported by research findings, research does show that about 15% of children are born with an inherited, low threshold for physiological arousal (Kagan & Reznik, 1986) which the authors speculate may be activated by novel situations. Earlier in this paper it was argued that high CA persons frequently describe themselves as experiencing heightened arousal and frequently describe this arousal as negative.

Additionally, the child's rate of development is likely to be related to CA. Children who are slow to develop socially and physically may experience problem interactions with parents and peers (Daly & Friedrich, 1981; Mash, 1984; Siegel & Cunningham, 1984). These conflicted relationships with the child may occur because the developmental delay prevents the child from behaving in what the parent thinks is an age appropriate manner (Siegel & Cunningham, 1984). Age appropriateness refers both to general maturity and to the attainment of certain skills. The delay may be in either communication skills or in other areas. Developmental delays in communication directly result in communication skill deficits which have already been discussed in relation to CA. These deficits in communication skills may contribute to or result from CA. When developmental delays occur in other
areas, communication is merely the medium in which unpleasant parent-child interactions occur. But even in these latter cases, communication anxiety may result because of the entanglement of communication with the conflict issues. In any developmental delays, the child is not able to fulfill parental expectations about the skills s/he should have. This relational conflict may remain even after the child eventually develops the skill in question (Daly & Friedrich, 1981).

While authors claiming an hereditary factor in the development of CA posit a genetic relationship between the personality of the mother and the personality of the child, other author's argue that the link is learning based. Learning occurs through parental modeling of CA behaviors (Leary, 1983b; McCroskey & Beatty, 1986; Phillips, 1968); reinforcement of CA related behaviors such as quietness, avoidance, and withdrawal (Biemer, 1983; Daly & Friedrich, 1981); and failure to expose the child to diverse situations that permit the habituation to physiological arousal (Buss, 1984; McCroskey & Beatty, 1984).

The literature on CA and heredity suggested the following research question and hypotheses:

Q2: Is CA in early childhood related to biological influences on the child?
H1: A young child's CA is likely to be positively related to the mother's self-reported CA.

H2: A young child's CA is likely to be positively related to the child's reactivity.

H3: A young child's CA is likely to be positively related to the child's delayed development.

Trauma

Traumatic events in childhood have been posited as a possible cause of CA. According to this argument, an extremely stressful event or chronic illness may so distress the child that the child becomes withdrawn and avoids communication (Lesser-Katz, 1986; McCroskey, 1976; Zimbardo, 1977). A variety of events have been suggested as possible precipitators of such avoidant and withdrawn behaviors. These events are relationship changes such as separation, divorce, remarriage; life threatening events such as serious illness or injury to the self or to another family member; death in the family; chronic illness of the child or family member; or abuse (Brenner, 1984; Hetherington, 1984; McCroskey, 1977b). While trauma induced CA is really a different category of CA than that being discussed in this review, the manifestations of this type of CA may be quite similar to the others. The literature relating trauma to CA suggested the following research question:
Q3: Is CA in early childhood related to trauma experienced by the child?

Reinforcement

The third account of the development of CA points to reinforcement as a contributing factor. Reinforcement explanations portray CA as a learned or reinforced response that becomes habituated (Biemer, 1983; Daly & Friedrich, 1981). This explanation emphasizes the interactive component in the development of CA. In addition to inculcating behaviors that may lead to CA, reinforcement patterns may exacerbate inherited characteristics that predispose a child to high CA. Reinforcement may be of four types, positive, negative, neutral (no reinforcement), or random. In its most basic form, the reinforcement argument maintains that children who are rewarded for communicating or who interact with adults who are open to communication are unlikely to be highly communication apprehensive (Daly, 1977; McCroskey, 1976). Conversely, the child who is punished for communicating (negative reinforcement), or who receives no reward for it, may become an anxious communicator (Biemer, 1983; Bond, 1984; McCroskey, 1976, 1982b). Random or inconsistent reinforcement is also problematic since it complicates the formation of outcome expectations about communication. The inability to
formulate outcome expectations is likely to lead to anxiety and to feelings of diminished control over outcomes (Gullette, 1987).

More specifically, reinforcement has been found to affect communication and, hence, CA in various ways. Reinforcement patterns are frequently suspect in problem relationships (Gottman, 1979; Mash, 1984; Rausch, Barry, Hertel, & Swain, 1974; Sillars & Pike, 1984; Snyder, 1977), in the learning of communication skills (Olsen-Fulero & Conforti, 1983; Smolak & Weinraub, 1983), and in diminished amounts of communication (McCroskey, 1976; Daly, 1977), all of which are relevant to CA. In a review of research on parent-child relations, Burgess (1981) identifies five dysfunctional behavior patterns, three of which have to do with reinforcement. Positive reinforcement increases the amount of communication (McCroskey, 1977a; Norman-Jackson, 1982; Olsen-Fulero & Conforti, 1983; Phillips, 1968; Smolak & Weinraub, 1983), encourages language learning (Smolak & Weinraub, 1983), and facilitates engagement (Finch & Hops, 1982; Olsen-Fulero & Conforti, 1983). A factor labelled "encouragement and reward" explained approximately 39% of the variance in the occurrence of CA in one retrospective study of the causes of CA (Daly & Friedrich, 1981). Success in oral reading was related to family encouragement of both oral reading performance and child
initiated communication with the parent (Norman-Jackson, 1982). Factors such as family size and birth order are thought to be related indirectly to CA because they affect the amount of parent-child interaction, the nature of parent-child communication, and, hence, the reinforcement the child receives from adults for communicating (McCroskey, 1977b; Zimbardo, 1977). Inconsistent reinforcement may result in a decreased responsivity between and among family members (Snyder, 1977), an inability to identify appropriate behavior or to compose behavioral plans (Green & Sparks, 1983), and a "learned helplessness" (McCroskey, 1982b; Phillips, 1968). In functional relationships, the affect of an act is likely to be contingent on the affect of the initiating act, but in dysfunctional relationships the affect of an act is not necessarily related to the affect of the initiating act (Snyder, 1977). For example, parents of withdrawn children were more likely to reciprocate a negative response to the child's prosocial behaviors (Finch & Hops, 1982; Norman-Jackson, 1982). Randomness of outcomes diminishes the need for recognizing appropriate behaviors, for developing plans, for practicing or improving communication behaviors, or for initiating goal oriented action (Sherman & Farina, 1974). By diminishing the need to practice or to initiate action, random reinforcement may lead to feelings of
anxiety and apprehension about communication and to poorly enacted communication. Thus, children who learn through reinforcement that communicating is encouraged and valued, that communication is a patterned event, and that communicating with others is a pleasurable experience are less likely to experience high CA. Children who are reinforced for being quiet, for avoiding discussion of conflict areas, and for not bothering adults are more likely to develop high CA. Children who are randomly reinforced for positive communication behaviors are likely to have difficulty constructing images of effective communication and to have difficulty believing that they have any control in interpersonal situations.

Since research has established that reinforcement is important to the development of communication in ways that are related to CA, a reasonable question is how communication behaviors are reinforced. Reinforcement may be provided on both the micro and macro level. On the micro level, positive reinforcement of communication may be provided by conversational devices and by interpersonal interactions. Various conversational devices such as acknowledgement, use of a question, relating adult speech to the child's utterance, and repetitions of the child's responses (Olsen-Fulero & Conforti, 1983; Smolak & Weinraub, 1983; Wells, 1985)
encourage the child to communicate. In contrast, taking over the child's speaking turn, ignoring the child's ideas, frequent directiveness, and repetition of the parent's own remarks lead to less child participation, shorter conversations, and diminished language development (Olsen-Fulero & Conforti, 1983; Smolak & Weinraub, 1983). Pleasant interpersonal interaction may also be rewarding to the child. At age two, a child's instrumental communication was related positively to such rewarding factors as verbal stimulation, nurturance, frequency of interaction, and inversely to such negatively reinforcing factors as frequency of punishment and control (Olson, Bates & Bayles, 1984).

On the macro level, the attitudes that the mother and family hold are likely to contribute to the positive or negative reinforcement of communication. Two important attitudes that affect CA are the mother and family's efficacy and preference for diversity. Low efficacy contributes to the development of behaviors and attitudes that are related to CA. Mothers and families who believe that they have little control over the world around them and that they are ineffective players in that world have feelings of low efficacy (Dean, 1961; Rubin, 1976; Seeman, 1959). People with low efficacy are likely to be alienated and to disbelieve the instrumentality of communication (McCroskey, 1977b, Mondell & Tyler, 1981;
Rubin, 1976). In mediating the larger world for the children (Reiss, 1971; Rubin, 1976), adult family members with feelings of low efficacy may convey to the child that withdrawal and avoidance are appropriate behaviors toward the outside world because control in these areas is impossible (Mondell & Tyler, 1981; Reiss, 1971; Rubin, 1976). Previously, passivity (Anderson & Arnoult, 1985; Zimbardo, 1977), diminished persistence (Zimbardo, 1977), hopelessness (Bond, 1984) and low efficacy itself (Coopersmith, 1981; Zimbardo, 1977) were all shown to be related to CA. Thus, low efficacy may promote the reinforcement of behaviors such as avoidance and withdrawal and of passivity. Additionally, low efficacy may encourage the belief that instrumental communication is of little value.

On the systems level, the family's sense of their mastery or efficacy is important as well. The family's sense of the world as ordered, knowable, and controllable affects the quality of both the relationships within the family (McLeod & Chaffee, 1972; Reiss, 1971) and the solutions devised for problems within the family (Mondell & Tyler, 1981; Reiss, 1971). Families with low efficacy convey to their children little expectation of success and reduced motivation to do well because doing well does not make any difference (Rubin, 1976; Satir, 1972). The low efficacy home is unlikely to encourage children to
become good communicators or to reinforce them for communicating (McCroskey, 1977b; Mondell & Tyler, 1981).

Furthermore, low efficacy and alienation may lead to frequent violent outbursts (Rubin, 1976) which provide poor models of communication for a child. In these episodes, communication ceases to be a process for solving problems and becomes a problem by illustrating that both the process and the outcomes of communication may be frightening.

A second attitude that may contribute to the positive reinforcement of a child's communication is the mother's and the family's valuing of novelty. At the individual level, new situations, unknown interaction partners, and unfamiliar topics have been associated with high levels of CA (Parks, 1980). At the family systems level, some families seek and enjoy novelty and change (Fitzpatrick & Best, 1979; Reiss, Oliveri & Curd, 1983), enjoy learning about new and different things (Daniels & Plomin, 1985), and permit more diversity of opinion and activity within the family (Daniels & Plomin, 1985; McLeod & Chaffee, 1972). These families which value novelty are more likely to encounter situations which require communication and negotiation, and they are more likely to engage in activities which require interpersonal interaction (Fitzpatrick & Best, 1979; Hochschild, 1989). Other families do not value novelty. Placing a negative value
on novelty is likely to result in less exposure to novelty on the part of both parents and children (Daniels & Plomin, 1985; McLeod & Chaffee, 1972). A failure to experience variety may result in a failure to habituate to the physiological arousal associated with novelty, and, hence, the tendency may develop to describe this arousal as unpleasant (Buss, 1980, 1984; McCroskey & Beatty, 1984). These families which dislike novelty may encounter fewer situations that require interpersonal interaction and negotiation (Fitzpatrick & Best, 1979; Hochschild, 1989).

The literature relating parental reinforcement behaviors to the development of the child's CA suggests the following research question and hypotheses:

Q4: Is CA in early childhood related to the reinforcement for communicating the child receives from the mother?

H4: A young child's CA is likely to be inversely related to the consistency which the mother displays in interactions with the child.

H5: A young child's CA is likely to be inversely associated with the mother's efficacy.

H6: A young child's CA is likely to be positively associated with the mother's dislike of novelty.
H7: A young child's CA is likely to be inversely related to the encouragement for communicating the child receives from the mother.

Although he advanced reinforcement as one explanation for the development of CA, McCroskey (1984) was clearly troubled by the reinforcement explanation because he believed reinforcement explained only behavior. By consistently reinforcing a child for not communicating or for being quiet, an adult may encourage a child to be quiet, to avoid or to withdraw from communication situations, to be passive, or to be an unskilled communicator. These were all discussed earlier as behavioral problems that are likely to be associated with CA. However, since McCroskey conceptualized CA as a cognitive variable, he believed the reinforcement explanation was inadequate to explain feelings of fear and anxiety associated with communication.

**Expectancy Theory**

To produce a more cognitively based explanation, McCroskey (1984) turned to expectancy theory which suggests that as humans interact with each other they develop expectations (cognitions) about the nature and outcome of these interactions. Expectancy theory takes the reinforcement a child receives for communication and builds a cognitive structure atop that reinforcement.
This is Beatty's (1984) argument that it is the cognitive structure created around experience that is more important than the experience itself. Highly apprehensive communicators are more likely to expect (1) that communication situations will be evaluative, (2) that communication outcomes will be negative, and (3) that they personally will have little control of communication process or outcomes.

(1) Communication apprehensives are more likely to expect that communication situations will be evaluative and to focus on those evaluative aspects than are non apprehensives. In a sense, all or nearly all human interaction could be seen as somewhat evaluative. Goffman's (1959) discussion of facework and the need for the preservation of the self through performance suggests that every situation has the potential for damage to the self and that interactants are at least somewhat aware of that potential. While overtly evaluative situations clearly increase the impact of CA (Cheek & Stahl, 1986; Daly & Friedrich, 1981; Green & Sparks, 1983), persons with high CA are likely to see most communication situations as evaluative (Bond, 1984; Booth-Butterfield & Gould, 1986; Buss, 1980; Cheek & Stahl, 1986; Fatis, 1983; Snyder et al., 1985; Watson & Friend, 1969), to fear negative evaluation (Burgoon & Hale, 1983b; Buss, 1980; Frances & Nemiah, 1983; Lennox, 1984; Watson &
Friend, 1969), to fixate on the negative affect of evaluation (Green & Sparks, 1983; Watson & Friend, 1969) and to skew evaluations as more negative than intended (Jensen, 1977).

If a focus on evaluation is associated with CA, how does a young child develop such a focus? From a number of potential influences leading to a focus on evaluation, two have been selected, inappropriate parental standards for the child's behavior and conditional parental acceptance of the child.

Children may encounter a great deal of evaluation when their mothers have very high standards for their behavior (Bond, 1984; Daly, 1977; Watson & Friend, 1969; Zimbardo & Radl, 1981). Unrealistically high standards for a child's behavior are detrimental in a number of ways that are relevant to the development of CA. Children may adopt adult expectations (Burgess, 1981; Zimbardo, 1977); may fail repeatedly, and may come to see themselves as inadequate or incompetent (Burgess, 1981; Buss, 1986; Leary, 1983b; Zimbardo & Radl, 1981), and may finally be unwilling to act at all (Daly, 1977; McCroskey, 1982; Phillips, 1968).

The mother's conditional acceptance of the child is likely to be related to the development of CA. The conditional acceptance of the child on the basis of the child's competence or performance (Zimbardo & Radl, 1981)
or the child's fulfilling parental images of a desirable child (Galinsky, 1981) results from the failure to recognize and value the child as a unique person. Children who are conditionally accepted on the basis of their performance and accomplishments fear failure because it means personal rejection (Zimbardo & Radl, 1981).

(2) Communication apprehensives are more likely to anticipate that communication outcomes will be negative than are non apprehensives (Bond, 1984; Buss, 1980; Daly, 1977; Green & Sparks, 1983; McCroskey, 1982). The valence of outcome expectations is important since the valence of expectations is related to the success or failure of actual outcomes (Anderson, 1983; Anderson, Horowitz, & French, 1983; Ayres & Hopf, 1990; Leary, 1983b). Various negative outcomes may be imagined by the apprehensive person. Some speakers fear not being able to say anything worthwhile and not being able to interest listeners (Booth-Butterfield & Gould, 1986); others believe they will be ignored or they will feel used (Burgoon, 1976); they may expect little success (Green & Sparks, 1983; Lederman, 1983; Porter, 1979; Zimbardo, 1977); finally, they believe they cannot meet either their own or other's expectations (Ayres, 1986; Bond, 1984; Leary 1983b; McCroskey, 1977; Stacks & Stone, 1984; Zimbardo & Radl, 1981). Young children may imagine
themselves being ridiculed or punished as a consequence of talking to others (Daly, 1977) or for initiating communication with adults (Norman-Jackson, 1982).

One of the most unpleasant outcomes a child may anticipate from communication is interpersonal conflict (O'Leary, 1984). Conflict may be participated in or merely observed. The child might be an observer to marital conflict. Conflict in the marital dyad negatively impacts the parent-child relationship, the child's enactment of communication, the child's self esteem and the child's attitude toward communication. In families in which the children perceived conflict in the marital dyad, parents were seen as less accepting, less satisfied with the children, less supportive, and more punishing (Aquilino, 1986; Farber, 1962; Kemper & Reichler, 1976). Positive affect in marital interaction and satisfaction with the spouses' parenting is associated with the child's positive self esteem (Coopersmith, 1981; Farber, 1962). Children's developmental delays, language deficits, diminished communication, avoidance of communication, aggression and shyness are all associated with conflicted family environments (Fowler, 1980; Gilmartin, 1985; Hecht et al., 1986; Olson, Bayles, & Bates, 1986; Phillips, 1968). Additionally, marital conflict may provide the child with limited verbal experience, confusing feedback, and few models of
competent communication (Hecht et al., 1986; Phillips, 1968).

The child might actually participate in conflict with the parent. This conflict also has implications for the development of CA. Higher amounts of communication apprehension are associated with parenting behaviors characterized by negativeness (Daly & Friedrich, 1981; Phillips, 1968), rejection (Buss, 1986; Leary, 1983b), aggressiveness (Buss, 1986), conditional acceptance (Zimbardo, 1981), punishment, disapproval, and restrictiveness (Leary, 1983; Mondell & Tyler, 1981; Watson & Friend, 1969). As the opposite of interpersonal conflict, interpersonal warmth is associated with factors that impede the development of CA. In the parent-child relationship, warmth is related to language development (Hazlett, 1984; Honig, 1982; Olson et al., 1984; Olson et al., 1986), self esteem (Bell & Bell, 1983; Coopersmith, 1967), a willingness to experience novelty (Ainsworth & Bell, 1974; Holland, 1970), cognitive ability (Belsky, 1981), interpersonal competence (Coopersmith, 1981; Mondell & Tyler, 1981) the development of structured expectations for communication outcomes (Powers, Hauser, Schwartz, Noam & Jacobson, 1983), and parent-child attachment (Ainsworth & Bell, 1974).

(3) Communication apprehensives are more likely to expect that they personally will have little control over
communication outcomes than are non apprehensives (Zimbardo, 1977). In general, reticents feel that they have no control over interpersonal relationships because interpersonal outcomes depend either on the actions of others or on factors beyond their own control (Anderson & Arnoult, 1985; Phillips, 1984). The expectation that events are beyond one's control is likely to lead to learned helplessness (Bond, 1984; Green & Sparks, 1983; McCroskey, 1982), to passivity, and to the inability to construct images of goal oriented communication (Green & Sparks, 1983). These have already been described as behavioral and cognitive problems associated with CA.

The degree of control over the child exercised by the mother is likely to impact the child's CA. Maccoby (1980) describes five definitions of control that have been used in parent-child studies, restrictiveness, demandingness, strictness, intrusiveness, and arbitrariness (p. 381). These definitions have in common that from the child's point of view, someone else defines both the system rules and what constitutes acceptable action within those rules.

The control variable manifests itself in both parenting style and conversational style, again the macro and micro levels. Parenting style can be characterized on a continuum from extremely controlling to extremely permissive (Baumrind, 1967, 1971). Children from
controlling families tend to be dependent, irresponsible, withdrawn, distrustful (Baumrind, 1967, 1971), less competent (Mondell & Tyler, 1981; Shields & Farina, 1974) and language delayed (Olson et al., 1986). Highly controlling families would not encourage development of communication skills or to permit the expression of difference or disagreement within the family (Schludermann & Schludermann, 1979) because both skill and the open expression of difference could threaten the authority structure of the family and the control it exercises (McLeod & Chaffee, 1972). In this family style, communication is not associated with process or negotiation; communication is a medium of control.

At the other extreme of the continuum, permissive parenting may also be problematic for the development of CA in children (Leary, 1983b). Permissive parents are likely to be neglectful, inconsistent, and irresponsible (Baumrind, 1971; Zimbardo & Radl, 1981). Children of permissive parents were the least self-reliant, least explorative, and least self-controlled (Baumrind, 1971). The problems associated with this style of parenting suggest that there is some optimum degree of parental control and responsibility that must be met (Baumrind, 1971; Zimbardo & Radl, 1981). Hence, both extreme control and extreme permissiveness can lead to CA (Leary, 1983b).
In the middle of the continuum are parenting styles that retain both moderate control of and warmth toward the child (Baumrind, 1971; Zimbardo & Radl, 1981). By encouraging individuality, independence, and the expression of differences, these families emphasize the importance of adaptation and negotiation to family process (Baumrind, 1971; Zimbardo & Radl, 1981). Children from these families are likely to be the most self-controlled, explorative, independent, autonomous, and competent (Baumrind, 1971; Zimbardo & Radl, 1981). Because of the importance of adaptation and negotiation in these families, communication is likely to be highly valued.

The second manifestation of the control variable comes in the parent's conversational style with the child. McDonald and Pien (1982) discovered parental behaviors associated with an intent to control the child's behavior rather than to converse with the child. Control intentions were characterized by negation of the child's actions and utterances, use of directives and attention devices, parent monologuing and dominance, inequality of participation, and mother dominance, and rapid topic change. Alternatively, the intent to elicit conversational participation from the child included use of questions, short speaking turns, equal participation or even child domination, infrequent use of directives,
infrequent use of attention devices and declaratives, little negation of child actions or verbalizations, and infrequent monologuing. Conversational mothers focused on social interaction rather than on objects and information. They were more concerned with facilitating social interaction than with control of the child's behavior. This conversational orientation is likely to facilitate better linguistic development for the child, closer affectional relations between the child and parent, and more advanced social development (McDonald & Pien, 1962). McDonald and Pien's work was confirmed and extended in a study by Olsen-Fulero (1962) who identified two other communication styles falling into the midrange of the continuum between the intent to control and the intent to converse.

Verbal control is associated with attitudes and behaviors that are related to the development of CA. For example, the over use of imperatives or directives may lead to withdrawal from interaction (Kekelis & Andersen, 1984), to diminished linguistic and cognitive competence (Kekelis & Andersen, 1984; Olson et al., 1986; Stafford, 1987; Wells, 1981), and to low self esteem (Coopersmith, 1981). Additionally, verbal control may prompt an exaggerated focus on vocal affect in interpersonal relations (Horner & Gussow, 1982). Because the parent is structuring the interaction and limiting the range of
appropriate responses, a controlling communication style provide less opportunity to adapt verbally and behaviorally (Kekelis & Andersen, 1984).

Thus, the fourth major factor in the development of CA in early childhood centers on the expectations a child constructs about the nature and results of communication. Some children conceptualize communication as a series of uncontrollable events in which they will be evaluated and found wanting. They conceptualize the process as uncomfortable and the outcome as fearful. The literature on expectancy theory suggested the following research questions and hypotheses:

Q5: Is CA in early childhood related to the expectations the child develops about communication?

H8: The young child who expects evaluation in communication situations is likely to have higher CA than the child who expects less evaluation.

H9: The young child who anticipates negative outcomes from communication situations is likely to have higher CA than the child who anticipates positive outcomes from communication.
H10: The young child whose mother exercises too much or too little control over interpersonal process or outcomes is likely to have higher CA than the child whose mother exercises more moderate control.

Summary

Communication apprehension is the fear and anxiety associated with talking to others. Although fear and anxiety are cognitive-affective variables, they are linked to avoidant, withdrawn, and passive behaviors as well as to skill deficits. Additional cognitive problems such as the inability to construct images of effective communication, cognitive distortions, and the negative interpretation of physiological arousal are related to CA. For some people this CA operates in nearly all instances of oral communication regardless of situation, target, or topic. These are the chronically apprehensive. For others, CA is associated with more specific situations, targets or topics. CA may develop during infancy, early childhood, or elementary/middle school. CA is likely to peak during adolescence.

A survey of the extensive literature surrounding communication apprehension yields four potential influences on the development of CA: biology, trauma, reinforcement, and expectations. Neither biology nor
trauma as factors affecting the development of CA requires any additional inputs from interpersonal interactions, but the influence of both biology and trauma on CA may be exacerbated by interactive influences. Interactive influences that are likely to contribute to the development of CA are negative or random reinforcement for communicating, expectations that the outcomes of communication are likely to be negative, expectations that communication process and outcomes are beyond one's control, and expectations that one will be evaluated during communication.

Because the family has been the chief socializing agent of young children, the family was studied as the source of reinforcement and of interactions around which the child developed expectations about communication. The argument that family interaction affects child development is not new, but the claim that CA begins in early childhood in interactions with adult caregivers (Coopersmith, 1981; Norman-Jackson, 1982; Zimbardo & Radl, 1981), has not been established by direct research. However, research has established the impact of adult communication behaviors on children's communication behaviors in some areas that are relevant to CA. For example, some parent-child communication styles diminish the amount of the child's communication (Gilmartin, 1985; Hecht et al., 1986), negatively affect the child's
communication performance (Matter & Matter, 1985; Shields & Farina, 1974; Zimbardo, 1977), and affect the child's feelings about communication (Zimbardo & Radl, 1981). Thus, there is some support for the claim of a relation between family interaction and the development of CA in young children.

Existing research suggests that communication apprehension is a serious problem affecting a significant portion of the population and correlating with disruption of interpersonal functioning, reduced cognitive competence, restricted educational opportunities, and diminished academic performance. In a society that is oriented toward the creation, acquisition, and manipulation of information, communication apprehension may greatly restrict an individual's life choices, contributions to society, and personal comfort (Harris, 1984; Leary, 1983b; McCroskey, 1982b; Phillips & Metzger, 1973; Watson et al., 1984). It is for these reasons that CA was investigated through this research project. In the next chapter, the research project undertaken to gather data on these issues is described: the participants will be characterized, the data gathering procedures will be narrated, the measuring instruments will be specified, and the variables will be operationalized.
CHAPTER II

PARTICIPANTS, PROCEDURES, INSTRUMENTATION,
AND OPERATIONALIZATIONS

Overview

The research project involved parent questionnaires, child interviews, teacher questionnaires, and videotaped parent-child interactions. Although all of this data has been gathered, the data from the videotaped interactions were not analyzed for the dissertation. Only the mother and teacher questionnaires, and the child interviews were analyzed for this dissertation. The videotaped interactions between mother and child will be analyzed at a later time. The participants, the data gathering procedures, and the instrumentation and operationalization of variables are discussed below.

Participants

Schools

The eight participating schools were self-selected from the eleven that were initially contacted. (A copy of this solicitation letter is in Appendix B.) These initial contacts were selected from a list of schools that
accepted OSU students into their classrooms as observers and as practice teachers. This larger list of potential sites taking OSU students was narrowed to eleven by restricting the study to schools that did not focus on special needs children. Participating schools varied in size and in location throughout Franklin County. Although all were privately funded schools, one gave enrollment preference to children of employees of a particular institution and another gave preference to children of residents of a particular municipality.

Children

In order to minimize demographic variability and to standardize the preschool experience, children attending institutionalized daycare programs were selected as the population of interest.

The original plan for the study stipulated 75 child participants prescreened for CA level: 25 with high CA, 25 with moderate CA, and 25 with low CA. The number 25 was selected as a target number for each group to permit the use of moderately powerful statistical techniques. However, because prescreening for CA level proved impossible, every child from the target schools whose parents consented was interviewed for the study. A total of 154 children were interviewed.
Although there were potentially 154 children in the study, children were excluded from the study for various reasons: (1) age, children younger than 3 were excluded; (2) language, children for whom English was a second language were excluded; and (3) missing data, children having more than two missing answers on the self report of CA were excluded. Applying these criteria produced a sample of 143 children to be analyzed when only child data was required. However, the bulk of the study related the child data to mother or teacher data. Since not all the mothers returned questionnaires or completed the questionnaires they did return, the number of child participants was restricted still further. Three additional filters on the mothers data restricted the child participants to 70. These additional filters are discussed in the paragraph on mother participants.

For this study, three, four, and five year olds were interviewed. Although three year old children were originally excluded from the study, the decision was made to include them after several three year olds clearly and forcefully expressed their communication preferences during pilot interviews. The three to five year old group was selected because it had not been studied in previous research on CA while both infant sociability (Kagan & Reznik, 1986; Murray & Trevarthen, 1986) and adolescent and preadolescent emergence of CA (Cheek et al., 1986;
McCroskey et al., 1981; Watson et al., 1984; Zimbardo & Radl, 1981) had been studied. Additionally, this age group was selected because onset of awareness of the self as a social object, thought to be a requirement for the development of CA (Buss, 1986), does not occur until about age four or five (Buss, 1986). While several authors (for example, McCroskey, 1976, 1977b, 1980; Zimbardo, 1977) have claimed that CA onsets during preschool years, they have provided no substantiation for that claim. Conflicting claims about the presence and extent of CA in the preschool population (McCroskey, 1976, 1977b, 1980; McCroskey et al., 1981) further emphasized the need for research about this developmental period. Hence, the current research tested the assertions that CA exists in the preschool population and that preschool children are able to report CA. Table 1 indicates that 28 three year olds, 33 four year olds, and 9 five year olds comprised the 70 child sample.

**Mothers**

A total of 110 mother and 65 father questionnaires were returned. A preliminary analysis of the data revealed that the mother and father data were quite different and that each had a different relationship to the child's CA. At that point, a decision was made to limit the dissertation analysis to only the mother's
questionnaires. The mother's questionnaires were chosen because there were more mother questionnaires, because studies of parents and children have traditionally analyzed mother data (Abidin, 1986), and because mothers have retained a large proportion of the responsibility for daily child care (Abidin, 1986; Hochschild, 1989).

Except for checking the correlation between mother's level of participation and the child's level of self reported CA, there was no attempt to ascertain the ways in which the mothers who participated were different from those who chose not to participate. There was no relationship between mother's participation and a child's self reported CA. The finding of no relationship between the mother's participation and the child's CA was important because of the possibility that mothers with high CA would be less likely to participate in the study. It is still possible, however, that severely shy parents were part of the large group of families who elected not to participate in the study at all. But within the group that did participate in the study, the mother's decision to participate minimally or maximally was not related to the child's CA.

The mothers' education and income were skewed toward the upper end of the scale, and their marital status was skewed toward first marriage. Slightly over half the mothers had family incomes of $45,000 or above. While 90%
had at least some college experience, an astonishing 43% of the parents had graduate degrees. Although such a highly educated sample restricted the breadth of findings in the study as many parenting behaviors have been shown to be associated with parent's education (Honig, 1982; Mondell & Tyler, 1981), these data did show that the goal of obtaining a demographically homogeneous sample had been met. In order to further the goal of obtaining a homogeneous sample, the participation of mothers, and, hence, children, was restricted by the mother's marital status and by her completion of the marital adjustment measure. Only currently married mother's were included in the analysis. Thus, the parent sample was skewed in terms of marital status. Seventy-three percent of the participating mothers, or 58, were in a first marriage. Fourteen were in a subsequent marriage. In sum, the mother sample in the study was not random; the mothers had more education and more income than the general population. Additionally, they were more likely to be in first marriages.

**Teachers**

The teachers of each child in the study were contacted about participating in the study. (Copies of the teacher solicitation letter and permission form are in Appendix B.) There was no attempt to collect any data
on the teachers who provided descriptions of the child's communication behavior in their classroom. The decision to forgo data collection for teachers was related to the focus of the study on parent-child interactions and to an attempt to minimize the threat of participation for the teachers. In order to facilitate teacher participation, each teacher was asked to complete only a few of these questionnaires. In classrooms with only a few child participants, a single teacher usually completed all the questionnaires, but in classrooms with 20 or more participants, several teachers each completed a few of the interview forms. The number of teachers completing forms in a classroom was left entirely up to the discretion of those teachers. Thirty-nine teachers completed a total of 133 questionnaires. (A copy of the teacher questionnaire is in Appendix C.)

Procedures

The first step in implementing data gathering procedures was to meet with the director of each school. In the meetings with the directors, the study was explained further, the child interview was demonstrated, and the nature of our presence in the school and the classrooms was described. Next, letters soliciting participation were distributed to the parents of all children 3 to 5 years of age at each school.
Approximately 500 families were contacted at this stage. Of this number, 154 families gave permission for the researcher to interview their preschool child. A consent form was obtained from all parents wishing to participate. (Copies of both the solicitation letter and the consent form are in Appendix B.)

When a number of parental consent forms had been obtained for a school, a day of observation was scheduled for each classroom in which a child was to be interviewed. On these observation days, the interviewer was usually introduced to the children during group time. Observation time was scheduled in order to eliminate some degree of "strangerness" in the interviewer-child relationship. This short period of time permitted the children to accept the interviewer as a safe part of the classroom environment but did not permit familiarization of the children with the interviewer.

After observations were concluded, child interviewing began. (Copies of both the interview schedule and the interview answer sheet are in the Appendix C.) To obtain a child's participation, each potential child participant was to be asked if he or she wanted to "play a game with the interviewer." However, because some children had observed other children being interviewed, some children presented themselves to the interviewer and asked if they could "play" before they were approached. Other children
rejected the initial invitation to play the game and had to be engaged in some other activity by the interviewer before they would consent to the interview. Alternatively, some children were directed by the teacher to play the game with the interviewer. After a child had indicated that s/he was willing to participate, the interview was explained and the child was told that s/he could stop the interview at any time. The interview then commenced.

Interviews were conducted during the regular preschool meeting time while the children were engaged in free play so as to minimally disrupt the classroom. Generally, the interviews were conducted in a corner of the classroom in clear view of all the other children and the teacher. In one school, each child was removed from the classroom to a space in the hall just outside the classroom door but still clearly visible to the teacher and other children through the window in the door.

The individual interview format was deemed most appropriate for use with preschool children because of the need to continually monitor the child's understanding of the questions and because of the child's limited ability to read and to write. Additional factors such as fatigue and uncooperativeness that might affect the results also needed to be monitored.
Interviews were conducted by either the researcher or an undergraduate assistant whose training as an interviewer consisted of several days of observing child interviews, of practicing interviews, and of discussing problems encountered in the practice interviews. The interview was audio taped and answers were recorded on an answer sheet.

Following child interviews in each classroom, the teachers were contacted and asked to complete a 16 item questionnaire describing each child's classroom communication behavior. (A copy of this questionnaire is in Appendix C.) No other data of any kind was obtained on the teachers.

As the children were being interviewed, questionnaires were sent to their parents. Due to the length of the questionnaire, parents were given three weeks for its completion. After three weeks parents were sent a reminder letter and a new copy of the questionnaire. Questionnaires were returned to a designated drop off area at the preschool. Parents were cautioned not to discuss their answers with their spouses.

The questionnaire format was selected as an efficient way to elicit parent attitudes and self reports of behaviors while preserving anonymity. Additionally, if in the midst of completing the questionnaire, the parent
became aware of negative aspects of his/her parenting style, the anonymity of the situation lessened the necessity for skewing answers in the direction of social desirability.

Although the interactive data was not analyzed in the dissertation, its collection is described below. The interactive data was collected by videotaping parent-child play. Parents were videotaped individually interacting with the child for 15 minutes in a free play situation with either art materials or with Lincoln Logs. While the interactions were not analyzed for the dissertation, they were included in the research program because communication is construed as behavior that occurs interpersonally (Watzlawick, Bavelas, & Jackson, 1967), as the actualization of an interpersonal system (Watzlawick et al., 1967), and as the actualization of the parent's attitudes about parenting, about children, and about family. Furthermore, the parental behavior provided the reinforcement, evaluation, acceptance, control, and conflict which were examined in this research.

Videotaping of parent-child interactions was conducted in a studio. A studio setting was chosen because excluding siblings and other distractions was easier than at home, recording equipment was less obtrusive, and some families who might be concerned about
the presentation of their homes or about violations of privacy by researchers might be more comfortable interacting outside the home. Also, by taping all families in the same environment, a more uniform situational stimulus was presented (Baumrind, 1967). Baumrind's (1967) study of parenting styles involved both home and laboratory study, and her results confirmed "nearly identical pictures" (p. 72) of parent-child interaction styles in both situations.

The parent-child interaction was videotaped rather than simultaneously coded because of the number of variables to be coded. When parent-child interactions are examined, behaviors will be coded for their contribution to the reinforcement of the child for communicating and to the child's developing of expectations about communication. Behaviors pertaining to encouragement, consistency, affect reciprocation, evaluation, and conversational style (McDonald & Pein, 1982) will be analyzed.

Summary

In the manner described above, schools were selected, participants were recruited, children were interviewed, parents and teachers completed questionnaires, and parents and children were videotaped. From contacting the first schools to videotaping the last parent-child
interaction, the data gathering took about 6 months. In the final section of this chapter, a combined discussion of the measures and operationalization of variables is presented.

Instrumentation and Operationalization

Because no single instrument measured all the variables and only the variables necessary for the study, multiple instruments were used. Scales from several instruments were sometimes combined to operationalize a single variable. Only the self report of the child's CA and the two characterizations of the child's CA by others were developed especially for this research. All the other instruments have long histories of use. Portions of six instruments formed the basis for the measures: the Parenting Stress Index (Abidin, 1986), the Parents Report (Cohen & Dibble, 1973), the Personal Report of Communication Apprehension (McCroskey, 1982a), the Parent Attitude Report Instrument (Schudson & Schludermann, 1979), the Parent as a Teacher Inventory (Strom, 1984), and the Unwillingness to Communicate Scale (Burgoon, 1976). (A copy of Abidin's PSI is found in Appendix D.)

In the sections that follow, these existing measures and the new child measure are described, their reliability and validity are discussed, and the operationalization of variables is presented. An
arbitrary criterion of .70 was selected as the reliability alpha necessary for a scale to be retained in the study. In order to simplify a complex discussion, these sections are organized by the research questions and hypotheses presented in Chapter One.

**Dependent Variable**

Q1: Do preschool children report fear and anxiety associated with oral communication?

Three measures of the child's CA were developed for the current research. One measure was the Child's Self Report of Communication Apprehension described below. The other two instruments were the characterizations of the child's communication and attitudes by the child's mother and preschool teacher. These latter two instruments were developed in an attempt to confirm the validity of the child's self reported CA. Descriptions of these three measures are given below. (Copies of all three child measures are found in Appendix C.).

The Child's Self Report of Communication Apprehension constituted the dependent variable. This instrument was developed by rephrasing and adapting questions from both the Personal Report of Communication Fear (McCroskey, 1977b) and the Verbal Activity Scale (McCroskey, 1977b). Adaptations were necessary because neither scale was developed for the preschool child.
Nineteen questions comprised this measure. The first four questions were practice questions which were not included in the calculation of the child's CA. The child's scale tapped the child's liking/disliking of communication in situations involving other children, adults, strangers, friends, and parents. The context for each question was provided by a different picture taken from a children's book. These pictures showed children talking in situations that varied the nature of the receiver, number of receivers, and the familiarity of the receiver.

The range of possible scores was from a low of 15 to a high of 45. A low score indicated low CA, and a high score indicated high CA. While 7 of the 143 children interviewed claimed they always enjoyed talking to others regardless of the nature of the other, the number of others, or the familiarity of others, no children reported always disliking talking to others. The highest score attained was 40. Because of the various filters applied to obtain a consistent sample, this child was eliminated from the data analysis. The highest score analyzed was a 37.

The Cronbach's alpha of reliability for the child measure was .78. While this coefficient was not as high as desired (Carmines & Zeller, 1979), it was respectable for a self report measure of young children (Johnson &

There was tentative support for the validity of the child's self report measure. First, the current measure was an adaptation of earlier measures. Garrison and Garrison (1979, p. 122) claimed that adult measures may be adapted for use with children without destroying their validity. Second, the relationship between age and CA was consistent with existing research which has repeatedly found that older children are more likely to report high CA (Cheek et al., 1986; Comadena & Prusank, 1988; McCroskey et al., 1981; Watson et al., 1984; Zimbardo & Radl, 1981). Although the correlation between age and CA was not significant, Table 1 reports a trend with the proportion of high CA children increasing from age three to age five. Third, a factor analysis of the 15 questions comprising the instrument produced theoretically consistent results. A factor analysis of the child's self report measure revealed five factors underlying the measure. Four of the five factors tap three aspects that have been found to influence CA: the nature of target (adult or child), the familiarity of the target (known or unknown), and conspicuousness. The four interpretable
factors were (1) Known Adults, (2) Strangers, (3) Conspicuousness, and (4) Known Children. The other important variable that affects CA "number of targets" was not readily identifiable from the factor analysis. Because the factors accounted for only 58% of the variance, the factor analysis suggested that while the measure was tapping relevant dimensions, there was still some error in the data.

Additional support for the measure's validity was provided by anecdotal evidence. The distinctions the children made during the interview suggested that they understood the questions and were responding to the CA relevant issues. For example, children distinguished between child and adult targets in general, and between unknown children and unknown adults in particular. Children frequently, and spontaneously, qualified "preference for meeting new people" by referring to the age of the person to be met. Meeting adult strangers was disliked while meeting unknown children was enjoyed. Additionally, the children described rules and situations which affected their communication behavior at certain times but not at others.

Several other factors suggested that the claim of validity for this measure should be tentative: the newness of the measure, the few administrations of it,
the lower than desirable reliability, and the youth of the respondents.

Two other measures of the child's CA were developed in the hopes of triangulating on the child's self report. The other two measures were the mother's and teacher's descriptions of the child's communication behavior. These two tests are described below. The Teacher's Report of the Child's CA is composed of 14 questions, and the Mother's Report of the Child's CA is composed of 16 questions. Both these scales are also adaptations of the two earlier McCroskey (1977b) tests. Adaptation of McCroskey's measures was required because both his scales were intended as self reports, and neither was intended as a rating of someone else's behavior. Both reports contain two subscales, a verbalness scale and a scale that measures the child's enjoyment of and comfort during communication. Again, the difficulty with the two scales comes in establishing validity. Both derive some validity from the previous tests from which they were developed (Garrison & Garrison, 1979). Both examine those factors associated with CA, the nature of the context and receivers, the number of receivers, and the acquaintance level the child has with the receiver. In spite of the difficulty in establishing the validity of these measures, the reliability of both is acceptable. The alpha for the reliability of the Teacher's Report is
quite high at .96. The alpha for the Mother's Report is lower at .85.

A relationship between the child's, mother's and teacher's reports of the child's CA would have strengthened the claim that young children do experience CA and are able to self-report it. However, there was no significant relationship among these three measures. The results of the Pearson product-moment analysis are presented in Table 2. While agreement among the three measures could have confirmed the existence of CA in early childhood, the absence of agreement was not unexpected and does not deny the existence of childhood CA. The lack of consensus among child, parent, and teacher measures may merely reflect the diversity expected when comparing self-reports and observer ratings (Clevenger, 1959; Johnson & Bommarito, 1971, p. 238; McCroskey, 1970) and does not in and of itself mean that any of the child scales are invalid. The lack of correlation among the measures may also suggest that each child report is situation specific. The validity of the three child measures and their lack of convergence are explored further in the discussion chapter.

Because of the importance of self reports in the history of CA research, it was decided to continue with the original intent to utilize the child's self reported CA as the dependent variable rather than switch to either
the mother's or teacher's descriptions. Given that intent to use the child's self report as the dependent variable, four possible scores met that criterion: (1) all children's actual CA scores, (2) the actual CA scores of only the two extreme (high and low CA) groups, (3) all children's classification as high, moderate, or low CA, and (4) the classification of only the high and low groups. Because children with moderate CA were less likely to be motivated by CA relevant variables, use of one of the options utilizing the extreme groups was the preferred choice. This choice left options two and four.

The fourth option, the classification scores of the extreme groups, was selected as the measure of childhood self reported CA. The classification option was preferred to the actual score option because it was the child's classification as high or low CA in comparison to other children that was thought to be important to prediction. The child's actual score within the high or low group was unimportant. Also, the classification score was a less refined measure of the child's CA which seemed desirable since there was some question of the young child's ability to finely differentiate feelings and attitudes. Choice of the classification rather than the actual score recognized that the set of specific responses from an individual child probably had some error, but the entire set of responses, relative to the whole set of responses
of another child probably differentiated between the children (Beatty, 1988; Burgoon, 1977).

The original intention was to use the strict criterion of one standard deviation above the mean as the definition of high CA (McCroskey, 1970). Using all 143 children interviewed resulted in a mean for CA of 24.71 with a standard deviation of 5.44; one-half a standard deviation was 2.72. Using the strict definition of high CA resulted in a score of 30 and above differentiating the high group. The strict definition of low CA as one standard deviation below the mean resulted in a score of 19 and below designating the low group. However, the dropping of all cases with missing data for the multivariate analyses and the application of filters for age, native language, mother's marital status, and mother's completion of the marital adjustment questionnaire to achieve a consistent sample resulted in a total of 70 children for analysis. Excluding the moderate CA children resulted in only 32 cases available for analysis. In order to increase the number of cases for analysis, a more liberal definition of CA as one-half standard deviation above or below the mean was used. The number of high and low cases available for analysis increased from 32 to 54. Since this study was exploratory in nature, the less stringent definition was used. When the more liberal criterion of one-half
standard deviation was used as the cut off point, scores of 27 and above designated the high CA group and 22 and below designated the low CA group.

Biological Influences Model

Q2: Is CA in early childhood related to biological influences on the child?

H1: A young child's CA is likely to be positively related to the mother's self-reported CA.

The mother's CA was operationalized as her score on the Personal Report of Communication Apprehension (PRCA, McCroskey, 1982a). The measure examines attitudes towards four communication contexts, conversation, discussion, small groups, and public speaking. The PRCA repeats six questions across four communication situations. The six questions asked about a respondent's liking/disliking, comfort/discomfort, and tension/relaxation during communication.

Developed by McCroskey (1970b, 1978, 1982a), the PRCA has been the most widely used measure of CA, having now been given to about 29,000 persons (McCroskey & Beatty, 1986). Because of the long history of development and refinement, this measure was the most reliable in the study. High CA was defined by McCroskey (1970) as one standard deviation above the mean, and low CA as one standard deviation below the mean. The mean for this
measure in most studies has been about 65.6 (McCroskey, Beatty, Kearney & Plax, 1985), and the alpha for reliability has been between .92 to .97 (McCroskey & Beatty, 1986). The alpha of .97 and the mean of 65 in the current research were consistent with those of earlier reports.

In studies to determine the validity of the PRCA-24, the measure was correlated with the theoretically relevant variables assertiveness (McCroskey et al., 1985), introversion (McCroskey, 1978), self esteem (McCroskey, 1978) trait anxiety (Beatty & Andriate, 1985), amount of talk (McCroskey, 1978), use of conversational devices (McCroskey, 1978), relevance of comments (McCroskey, 1978), and originality of ideas (McCroskey, 1978). Additionally, housing choice, seating location, occupational choice, job satisfaction, and preference for educational methods (McCroskey, 1978), which all involve preference for or avoidance of communication, were also correlated with the PRCA. The diversity of theoretically relevant findings suggest that the PRCA has tapped a valid construct. In the current study mother's with high CA were more likely to dislike novelty and change (r = .45, p = .00). This finding was consistent with the claim that apprehensives dislike dealing with novel situations as well as interpersonal
interaction (Buss, 1980; Daniels & Plomin, 1985; McCroskey & Beatty, 1984; Parks, 1980).

H2: A young child's CA is likely to be positively related to the child's reactivity.

Reactivity was operationalized as a low score on the mother's description of the child on Abidin's (1986) adaptability scale. This scale was composed of eleven questions which asked about the nature of the child's emotional reaction to change, to novelty, to strangers, and to separation from the mother. A child who is adaptable is not likely to be reactive. The adaptability scale showed alphas of .66 and .72 in earlier studies (Loyd, 1986). Its reliability in the current study was .78. A thorough review of research using the whole instrument from which this scale comes, the Parenting Stress Index (Abidin, 1986) establishes concurrent, construct, discriminant, and predictive validity (See Loyd, 1986 for a detailed description of studies establishing each type of validity). In the current study, mothers who described their children as reactive rather than adaptive were less accepting of the child ($r = .53, p = .00$), less attached to the child ($r = .30, p = .02$), and shared less decision making with the child ($r = .46, p = .00$). Mothers with less adaptive children were
more likely to describe themselves as having very high standards for the child's behavior ($r = .23$, $p = .05$).

**H3:** A young child's CA is likely to be positively related to the child's delayed development.

Delayed development was operationalized as the child's score on an additive index created from three questions in the mother's questionnaire. The questions asked about the child's prematurity, age at walking and age at talking. In the current study, children who were slower developers were less accepted by their mothers ($r = -.26$, $p = .03$).

Thus, the biological influences on the child that were investigated for their relevance to the child's CA were the mother's CA, the child's reactivity, and the child's delayed development. The difficulty in operationalizing the biological influences model should be noted. While this current research compares mother's and child's levels of CA, it is impossible to quantify how much of the relatedness is due to biological influences and how much to learned effects. Likewise, the child's reactivity level should be at least partially determined by biological influences, but reactivity studies are usually done in infancy when the effects of learning are less. In this study no attempt was made to
separate the truly biological influences from learning effects, but future research should attempt to do so.

**Trauma Model**

Q3: Is CA in early childhood related to trauma experienced by the child?

Trauma was operationalized as the child's score on an additive index composed of questions about the child or someone in the immediate family as having encountered chronic or serious illness, accidents, serious injury, or death. Additionally, a change in family structure as defined by a change in the mother's marital status was also included as a traumatic experience for the child. In the current study, the mother of a child who experienced trauma was more likely to describe herself as inconsistent in discipline \(r = -.32, p = .01\), less accepting of the child \(r = -.26, p = .03\), less attached to the child \(r = -.25, p = .03\), less respectful of the child's autonomy \(r = -.23, p = .05\), less adjusted maritally \(r = -.36, p = .004\), and less satisfied with her husband as a father \(r = -.31, p = .01\). These mother's were also likely to have low efficacy \(r = -.29, p = .02\). In short, the mother's description of the child's and/or family's experience of trauma affected nearly every area of family interaction. It affected the
mother's attitudes toward parenting, spousal relations, and herself.

**Reinforcement Model**

Q4: Is CA in early childhood related to the reinforcement for communicating the child receives from the mother?

H4: A young child's CA is likely to be inversely related to the consistency which the mother displays in interactions with the child?

Consistency was operationalized as the mother's score on the consistency in discipline scale from the Parent's Report (Cohen & Dibble, 1973). This scale was composed of four questions which asked about a mother's attempts to do what she says she will and to insure that the child complies with her behavioral directives. No statistics were reported for reliability from the test-retest studies that have been conducted on the Parent's Report (Dibble & Cohen, 1974). In the current study the consistency in discipline subscale achieved an alpha of .70. In prior research, the validity of the entire Parent's Report instrument was established by correlating it with a social worker's observations of parent behaviors, but no specific statistics were reported on this subscale (Dibble & Cohen, 1974). In the current study, mothers who described themselves as consistent in
parenting had children who were less likely to have experienced trauma \((r = -0.32, p = 0.01)\), and they were more attached to their children \((r = 0.23, p = 0.05)\) and more respectful of the children's autonomy \((r = 0.28, p = 0.02)\). These mothers described their marriages as well adjusted \((r = 0.45, p = 0.000)\) and were more satisfied with their husbands as parents \((r = 0.39, p = 0.002)\).

**H5:** A young child's CA is likely to be inversely associated with the mother's efficacy.

Efficacy was operationalized as the mother's score on the Reward Scale of the Unwillingness to Communicate Scale (Burgoon, 1976). The 10 questions asked whether the mother believed talking to others was a valuable activity that brought rewards or was a waste of time that increased interpersonal costs and alienation. This scale tapped the mother's feelings of interpersonal competence and integration with family and friends, as well as her perceived rewards from communicating. While it would be most desirable to also operationalize efficacy at the systems level as Reiss (1971) has done, the scope of this project did not permit involvement of all family members. For this project, only the mother's efficacy was measured. Mothers have long been the primary informants in parent child studies because they are assumed to be the primary caregivers (Abidin, 1986).
In prior research on the UTCS, the Reward factor had an alpha of .68 and a split-half reliability coefficient of .82 (Burgoon, 1976). In the current research, the Reward factor had an alpha of .82. The validity of the Reward factor has been argued in studies linking the UTCS with anomie and alienation (Burgoon, 1976). In the current research, mothers who reported higher efficacy were more accepting of the child \((r = .25, p = .04)\), more attached to the child \((r = .31, p = .01)\), more respectful of the child's autonomy \((r = .31, p = .01)\), and less likely to believe that their children had experienced trauma \((r = - .29, p = .02)\). These mothers also said that they were more adjusted in their marriages \((r = .32, p = .01)\) were more satisfied with their husbands as fathers \((r = .42, p = .001)\).

H6: A young child's CA is likely to be positively associated with the mother's dislike of novelty.

The mother's disliking of novelty was operationalized as the mother's score on the novelty subscale from the Orientation and Motivation Inventory (Lorr & Stefic, 1981; Lorr, Youniss, & Stefic, 1981). The mother was asked whether she was more likely to choose difference over sameness in a variety of contexts. Again, the operationalization of this variable at the family system level would have been desirable. For this project, only the mother's preference for novelty was measured. Again,
this focus on the mother's preference was deemed acceptable because the mother has been seen as the primary care-giver (Abidin, 1986; Hochschild, 1989).

In an earlier study utilizing a test-retest paradigm, the Novelty Seeking Scale achieved a reliability score of .69 (Bloxom, 1985). In the current study, the alpha was .77. Arguments for the validity of the scale were drawn from descriptions of the development of the test (Lorr & Stefic, 1978) and field studies which differentiated personality types and correlated with self reports of motivation (Lorr & Stefic, 1978; Youniss, Lorr & Stefic, 1979; Starkman, 1985). In the current study, mothers who disliked novelty were more likely to be less attached to the child ($r = - .28$, $p = .02$) and to have high CA themselves ($r = .45$, $p = .000$).

H7: A young child's CA is likely to be inversely related to the encouragement for communicating the child receives from the mother.

Encouragement for communicating was operationalized as the mother's score on the Encouragement of Communication scale from the Parent Attitude Report Instrument (Schludermann & Schludermann, 1979). However, because this scale failed to meet the reliability criterion, this hypothesis could not be addressed in this portion of the data analysis. This hypothesis will be addressed in the analysis of the interactive data.
Because the instrument for measuring the fourth hypothesis failed to meet the reliability criterion, only three variables provided the operationalization of reinforcement. Reinforcement of the child for communicating was thought to be more likely when the mother parented consistently, when she had high efficacy, and when she valued novelty.

**Expectations Model**

**Q5:** Is CA in early childhood related to expectations the child develops about communication?

**H8:** A young child who expects evaluation in communication situations is more likely to have higher CA than the child who expects less evaluation.

Expectations of evaluation were operationalized as the mother's score on three scales. It was argued that the child would be more likely to be evaluated if the mother had very high standards for the child's behavior, if she withdrew from the child when the child failed to meet her standards, and if she were conditionally accepting of the child. The last two scales are discussed under the umbrella term conditional acceptance. The instrumentation of each of these is described below.

Standards for the child's behavior were measured by the mother's score on the frustration subscale of the
Parent As A Teacher Inventory (Strom, 1984). The scale included five questions about how the parent reacts to the child's being noisy, getting dirty, being messy, fighting, interrupting, bothering, and intruding.

The larger instrument of which this subscale was a part examined parental standards for children. The subscale had not had its reliability tested separately in any previous studies. Reliability alphas for the entire PAAT in 17 earlier studies ranged from .71 to .88 (Strom, 1984). In the current research, the frustration subscale had an alpha of .74 with two items deleted. The .74 alpha is within the range of the earlier studies.

Validity was determined in two studies (see Strom, 1984) which correlated the entire inventory with observed parent behaviors. A 75% and an 85% agreement was obtained between observed and self-reported behaviors in those studies (Strom, 1984). The validity of the test in the current research was suggested by several moderate correlations with other scales. Mother's who maintained very high standards for the child's behavior described the child as reactive ($r = .23, p = .05$) and themselves as less accepting of ($r = -.40, p = .002$) and less attached to ($r = -.26, p = .03$) the child. Mother's with high standards were less likely to respect the child's autonomy ($r = -.32, p = .01$) and were more likely to discourage the child's disagreement ($r = .36, p = .004$).
Conditional acceptance was operationalized as the mother's low scores on two scales, the Acceptability of the Child to the Parent scale (Parenting Stress Index, Abidin, 1986) and the parental attachment scale (Parent's Report, Cohen & Dibble, 1973). Both scales probed the mother's enjoyment of interacting with the child, her withdrawal from the child, and her acceptance of the child regardless of the child's performance.

The Acceptability subscale achieved alphas of .63 and .76 in earlier studies (Loyd, 1986). The current study's alpha of .74 was consistent with the earlier levels. Again, see Loyd (1986) for a thorough review of studies supporting claims for the validity of the entire measure. This scale was significantly correlated with 10 of the study's other variables. Mother's who were unconditionally accepting of their children were more likely to see their children as adaptable rather than as reactive ($r = .53, p = .000$), to have high efficacy ($r = .25, p = .04$), to have more moderate standards for the child's behavior ($r = -.40, p = .002$), to be more attached to the child ($r = .28, p = .02$), to be more respectful of the child's autonomy ($r = .30, p = .02$), and to encourage the child to talk about disagreements ($r = .24, p = .04$). Mother's who were more accepting of their children reported more marital adjustment ($r = .49, p = .000$) and
more satisfaction with their husbands as fathers ($r = .28$, $p = .02$).

Studies of the reliability of the attachment/detachment scale (Dibble & Cohen, 1974) reported no statistical analyses of reliability. In the current study, the scale achieved an alpha of .80 for reliability with one item dropped. Earlier validity studies centered on correlating the scale, with a social worker's rating of parent behavior (Dibble & Cohen, 1974). In this current study, the attachment subscale correlated with 9 of the other variables. Mothers who were more attached to their children were more likely to describe the child as adaptable rather than as reactive ($r = .30$, $p = .02$) and to describe their parenting as consistent ($r = .23$, $p = .05$), to value communication ($r = .30$, $p = .01$), to prefer novelty ($r = .28$, $p = .02$), to have lower standards for the child's behavior ($r = -.26$, $p = .03$), and to be more accepting of the child ($r = .28$, $p = .02$). These mothers were also more likely to report that their marriages were well adjusted ($r = .40$, $p = .002$) and that they were satisfied with their husbands as fathers ($r = .39$, $p = .002$).

Thus, expectations of evaluation were predicted to increase when parents held high standards for a child's behavior and when parents conditionally accepted the child.
H9: A young child who anticipates negative outcomes from communication is likely to have higher CA than the child who anticipates positive outcomes from communication.

Negative outcomes from communication were operationalized as conflict in the marital dyad. Marital conflict was operationalized as the mother's scores on two scales, the Dyadic Adjustment Scale (Spanier, 1976) and The Parent's Relationship with the Spouse as a Parent (Parenting Stress Index, Abidin, 1986). The Dyadic Adjustment Scale asked about four areas of marital functioning, consensus, cohesion, satisfaction, and affect expression. The Relationship with the Spouse as a Parent scale asked about the mother's satisfaction with the husband's participation in both the marriage and child care.

Spanier's Dyadic Adjustment Scale (DAS; 1976) has had a long research history which has established it as both reliable and valid. Although studies (Spanier, 1976) of reliability establish an alpha of .96, in the current research the alpha was somewhat lower at .91. The validity of the measure has been claimed because of the construction process, the scale's relation to other marital scales, and its production of theoretically consistent results (Spanier, 1976). Through repeated use, the DAS has correctly differentiated respondents
according to their marital status. The DAS was correlated with 8 of the other parenting scales in this study. Mothers who described their marriages as well adjusted were more likely to describe their children as adaptable ($r = .34, p = .007$) and themselves as consistent in discipline ($r = .45, p = .000$). These mothers were more likely to report higher efficacy ($r = .32, p = .009$), to be more attached to their children ($r = .40, p = .002$), and to be more accepting of their children ($r = .49, p = .000$). These mothers were more likely to be more satisfied with their husbands as fathers ($r = .61, p = .000$).

The Relationship with the Spouse subscale achieved alphas of .70 and .78 in earlier studies (Loyd, 1986). In the current study, the alpha for this scale was .77. Loyd's (1986) review of the development and use of the entire instrument from which this subscale was drawn (PSI, Abidin, 1986) substantiated claims of concurrent, construct, discriminant, and predictive validity for the measure. A pattern of relationships similar to that of the DAS occurred between this scale and the other parenting scales. Mothers who were more satisfied with their husbands as fathers were more likely to see themselves as consistent ($r = .39, p = .002$), to value communication ($r = .42, p = .001$), to be more accepting of their children ($r = .28, p = .02$), to be more attached to
their children \( (r = .39, p = .002) \), and to believe that their marriage was well adjusted \( (r = .61, p = .000) \).

Because the child may come to fear that communication conflict in the marital dyad will be replicated in the mother-child dyad, expectations concerning unpleasant communication outcomes were operationalized in terms of interpersonal conflict which the child observed in the marital dyad.

**H10:** A young child whose mother exercises too much or too little control over interpersonal process or outcomes is likely to have higher CA than the child whose mother exercises more moderate control.

Control over interpersonal outcomes was operationalized as the mother's scores on four scales, the Acceptance of Autonomy and Shared Decision Making Scale from the Parent's Report (Cohen & Dibble, 1973; Dibble & Cohen, 1974) and three subscales from the PARI (Schludermann & Schludermann, 1979), discouraging disagreement, parental manipulativeness, and parental intrusiveness. These scales asked about parental manipulation of interactions with the child and about the various types of autonomy permitted the child such as disagreeing with the parent, decision making, and maintaining privacy.
The autonomy scale was taken from the Parent's Report (PR, Cohen & Dibble, 1973; Dibble & Cohen, 1974). Developed for use with parents of children ages two to thirteen years old, the scale consisted of four questions. Although several test-retest studies of reliability were conducted (Dibble & Cohen, 1974), no statistics were reported, and results were merely described as "acceptable." In the current research, Cronbach's alphas of reliability reached .75 for this scale. The validity of the entire PR was established by correlating it with a social worker's ratings of parent behavior (Dibble & Cohen, 1974). In the current study this autonomy scale correlated with seven other measures of parenting behaviors and attitudes. Mothers who respected their children's autonomy and shared decision making with the child were more likely to describe their children as adaptable ($r = .46$, $p = .000$) and to see themselves as more consistent ($r = .28$, $p = .03$), less frustrated with the child's behavior ($r = -.32$, $p = .01$), and more accepting of the child ($r = .30$, $p = .02$). These mothers were more likely to report that they had high efficacy ($r = .31$, $p = .01$) and they encouraged the child to talk about disagreements ($r = -.31$, $p = .02$).

The other three scales that measured control were from The Parent Attitude Report Instrument (PARI; Schaefer & Bell, 1958; Schludermann & Schludermann,
In prior reliability studies (Schludermann & Schludermann, 1979) a test-retest paradigm was used while in the current research Cronbach's alpha was calculated. Using the test-retest paradigm, the discourages disagreement scale achieved a reliability coefficient of .67, parental manipulativeness achieved a .68, and parental intrusiveness achieved a .74. In the current study the discourages disagreement subscale achieved an alpha of .79, the maternal manipulativeness a .78, and the maternal intrusiveness a .70.

A ten year research history confirmed the PARI as a measure of authoritarian parenting attitudes (Sims & Paolucci, 1975). The PARI has correctly predicted theoretically relevant variables such as non nurturant parenting behaviors (Raddin & Glasser, 1972) and maternal strictness (Lowenstein, 1973). In the current study these scales correlated with several of the other parenting scales. Mothers who discouraged discussion of disagreement were more likely to maintain very high standards for the child's behavior ($r = .36, p = .004$), to be less respectful of the child's autonomy ($r = -.31, p = .01$), to be more manipulative ($r = .27, p = .03$), and to be less accepting of the child ($r = -.24, p = .04$). Mothers who described themselves as more manipulative also described themselves as discouraging the child from verbalizing disagreements ($r = .27, p = .03$). Mothers who
were more intrusive were more likely to describe themselves as disliking novelty ($r = .30$, $p = .02$), to be well adjusted maritally ($r = .23$, $p = .05$), and to be more satisfied with their husbands as fathers ($r = .32$, $p = .01$). The correlation patterns with the intrusiveness scale do not confirm that this particular scale was measuring what was intended. The relationship with novelty is plausible for a control scale, but the direction of the relationship with the marital scales was not expected. Several parents wrote on the questionnaire that this scale was inappropriate for preschoolers as it asks a number of questions about privacy.

These then were the operationalizations that permitted the testing of the hypotheses and the instruments that were used to measure the variables. These instruments provided children's self reports of CA, teachers' characterizations of children's communication, mothers' descriptions of their own CA, their perception of their child's CA, descriptions of their parenting attitudes, and self reports of their parenting behaviors.

**Summary**

In an attempt to gain a further understanding of the development of communication apprehension, a research program focusing on the parent-child relationship has
been undertaken, and the data have been gathered. The research tested the four models of CA development suggested by existing research. In addition to addressing the contribution of biology, trauma, reinforcement, and expectations to the etiology of CA, the research attempted to answer the question of whether young children were able to report on their own apprehension toward communication. The interview and survey data have been analyzed. In the next chapter, the analysis of the data is described and the results of those analyses are presented.
CHAPTER III
ANALYSIS AND RESULTS

In this chapter, the analysis of the data is briefly described, and the results of that analysis are presented.

Analysis

There were four stages of data analysis: (1) the scales were examined for multicollinearity, (2) standard demographic data unspecified by the model were analyzed for their relation to the child's CA; (3) each model, biological influences, trauma, reinforcement, and expectations, was tested separately; and (4) the models were combined and tested as a composite model. The decision to combine the models was an outgrowth of the claim that CA may be traced to a number of causes which all produce a similar fear or discomfort during communication (Buss, 1986; Cheek et al., 1986; McCroskey, 1977b).

Two statistical procedures were used in the analyses. The Pearson product-moment procedure was computed to test each individual variable's relation to the dependent
variable and to the other independent variables. Discriminant analysis was the multivariate technique chosen to examine the relationship between the several variables comprising each model and the dependent variable. Discriminant analysis was chosen for its ability to utilize a categorical dependent variable.

Results from these various analyses are presented in the remainder of this chapter. The presentation of results generally is organized by the four models, but two analyses are presented separately. The demographic data is presented after the model based section, and the test of multicollinearity will be presented before the model based section.

Results

Multicollinearity

The correlations among the reliable scales were examined to determine if these relationships would be strong enough to affect the multivariate tests. Table 3 shows the correlations between the 16 scales used in the study. The correlations among these scales were generally moderate to low. Of the 120 possible relationships, only 46 were significant. Three of the higher correlations involved the mother's report of her marital adjustment. Adjustment was related to her satisfaction with her husband as a parent ($r = .61, p = .000$); to her
consistency as a parent \( (r = .45, p = .000) \); and to her acceptance of the child \( (r = .49, p = .000) \). Two other of the higher correlations involved the mother's report of the child's adaptability. Both the mother's unconditional acceptance of the child \( (r = .53, p = .000) \) and her respect for the child's autonomy \( (r = .46, p = .000) \) were moderately correlated with adaptability. The remaining 41 relationships were correlated at the .2 to .4 level. None of the correlations suggested that any scale was a virtual duplicate of the others. In the section that follows, the results from the analyses are presented.

**Research Questions**

**Dependent Variable**

_Q1: Do preschool children report fear and anxiety associated with oral communication?_

Including all 143 children interviewed resulted in a mean for the child's CA of 24.71 with a standard deviation of 5.44; one-half a standard deviation was 2.72. When cases with missing data were excluded, and when filters for age, native language, mother participation, and mother's marital status were applied, a total of 70 children constituted the sample for these analyses. Using the strict definition of CA, 14 or 20% of the participants reported distress in most communication situations involving other children, adults, known and
unknown others, and one, few or many others. Eighteen or
26% reported seldom experiencing anxiety in these same
situations. Thirty-eight or 54% reported that they
sometimes experienced fear or anxiety in some
communication situations. Only 32 cases fell into the
extreme categories.

Using the more liberal definition of CA as one-half
standard deviation above or below the mean increased the
number of extreme cases available for analysis from 32 to
53. Since this study was exploratory in nature, the less
stringent definition was used. With the more liberal
definition, 26 or 37% report low CA while 27 or 39%
report high CA. With this definition, the middle category
shrank to 17 children or 32% of the sample.

To confirm the validity of the child's self-report,
an attempt was made to triangulate that self report with
two other measures, the mother's and teacher's
descriptions of the child's communication behavior. A
relationship between these three measures would have
strengthened the claim that young children do experience
CA and are able to self-report it. However, Table 2 shows
that there is no relationship among these three measures.

The crosstabulation of the three classifications
reported in Table 4 shows that children, mothers, and
teachers agreed on the classification of 10 children.
These 10 children constitute 17% of the 60 cases for
which there was child, mother, and teacher data. Children and mothers agreed 24 times, children and teachers agreed 24 times, and mothers and teachers agreed 27 times. Mothers, teachers, and children were more likely to disagree than to agree on the child's CA. This disagreement will be examined in the discussion chapter.

Each of the remaining four research questions constituted a model for the etiology of CA. The results pertaining to these models are presented in the next section. Each hypothesis was tested individually, and then the several hypotheses for each model were combined in a multivariate test of the model.

**Biological Influences Model**

**Q2: Is CA in early childhood related to biological influences on the child?**

**H1: A young child's CA is likely to be positively related to the mother's self-reported CA.** The Pearson product moment analysis (see Table 5) showed that the child's CA was related to the mother's CA ($r = -0.25$, $p = 0.04$); however, the relationship was in the direction opposite that predicted by prior research. Thus, children with high CA were slightly more likely to have mothers with low CA, and children with low CA were slightly more likely to have mothers with high CA. The discriminant
analysis for all the biological influence variables will be reported below.

H2: A young child's CA is likely to be positively related to the child's reactivity. The correlation analysis failed to show any relationship between these variables (see Table 5).

H3: A young child's CA is likely to be positively related to the child's delayed development. The Pearson correlation analysis (see Table 5) found a small, negative relationship \( r = -0.27, p = 0.02 \) between the child's delayed development and his or her CA. Again, the relationship is in the opposite direction from the hypothesis.

In addition to the correlation analyses, a stepwise discriminant analysis was computed to determine the combined effect of the biological influences on the child's self-reported CA. A significant discriminant function was obtained (Wilks' lambda = 0.86; \( p = 0.02 \), variance = 14%). This model correctly predicted 64.15% of the cases. Two scales contributed to maximal separation of the groups, and their structure matrix coefficients are reported in Table 6. These coefficients showed the child's delayed development (0.71) and mother's level of CA (0.64) were highly related to the function. The centroid mean for the low CA group was 0.40 while the centroid mean for the high CA group was -0.39.
Both the correlation and discriminant analyses failed to find the posited relationship between the mother's report of the child's reactivity and the child's CA. Thus, Hypothesis 2 was rejected. Both analyses did find a relationship between the other two variables, the mother's own CA and the child's delayed development, and the child's CA. In both the correlation and discriminant analyses of these two variables, the relationship was opposite that hypothesized. The child's high CA was predicted by the mother's low CA and by her recollection of the child as an early developer. Because these relationships were opposite the direction hypothesized, both hypotheses 1 and 3 were also rejected, but both relationships must be investigated further. The implications of these unexpected findings will be considered in the discussion chapter.

**Trauma Model**

Q3: Is CA in early childhood related to trauma experienced by the child?

The Pearson product moment analysis (Table 5) found no relation between the child's experience of trauma and the child's self reported CA. Because there was only a single variable operationalizing this research question, no multivariate discriminant analysis was performed.
However, the trauma variable will be included in the composite model to be tested and discussed later.

Reinforcement Model

Q4: Is CA in early childhood related to the reinforcement for communicating the child receives from the mother?

Three hypotheses were associated with this research question.

H4: A young child's CA is likely to be inversely related to the consistency which the mother displays in interactions with the child. No relationship was found between maternal consistency and the child's CA on the basis of Pearson product-moment analysis (see Table 5). The discriminant analysis utilizing all the reinforcement variables are described below.

H5: A young child's CA is likely to be inversely associated with the mother's efficacy. The Pearson product moment analysis found no relation between maternal efficacy and the child's CA (see Table 5).

H6: A young child's CA is likely to be positively associated with the mother's dislike of novelty. A Pearson product moment analysis (see Table 5) did confirm a relationship between maternal preference for novelty and the child's CA ($r = -.30$, $p = .02$). Once again, the relationship was opposite that hypothesized. The mother's
disliking of novelty was related to the child's low CA while the mother's liking of novelty was associated with the child's high CA.

**H7:** A young child's CA is likely to be inversely related to the encouragement for communicating the child receives from the mother. This hypothesis could not be addressed because the encouragement for communication scale failed to achieve the necessary level of reliability.

The stepwise discriminant analysis examining the combined impact of the reinforcement variables found a significant discriminant function (Wilks' lambda = .91, p = .03, variance = 9%). Utilizing the reinforcement model as an aid to classifying children by CA level resulted in only 56.6% of the cases being correctly classified. Only the mother's disliking of novelty was useful in differentiating CA groups. The centroid mean for the low CA group was .31 while the mean for the high group was -.30.

Neither the Pearson product moment analysis nor the discriminant analysis found any relationship between two of the three reinforcement variables, the mother's consistency as a parent and her efficacy and the child's CA. The importance of the mother's disliking of novelty to the child's CA was confirmed in both the correlation and discriminant analyses, but the relationship was
opposite that hypothesized. Thus, this third hypothesis was also rejected, but the relationship of this variable to childhood CA should be explored further. The implications of this unanticipated relationship will be considered in the discussion chapter.

**Expectations Model**

Q5: Is CA in early childhood related to the expectations the child develops about communication?

There were three hypotheses associated with this question. Each is considered below.

H8: The young child who expects evaluation in communication situations is likely to have higher CA than the child who expects less evaluation. Since two variables operationalized expectations of evaluation, there were two analyses. The first relationship tested was that between the mother's very high standards for the child's behavior and the child's self reported CA. It was argued that a child's expectations of evaluation were likely to be higher when the mother had very high standards for the child's behavior. The correlation analysis (see Table 5) failed to reach the necessary .05 criterion for significance. The discriminant analysis using all the expectation of evaluation variables is described below. The second relationship tested was
between the mother's conditional acceptance of the child and the child's CA. Two scales measured the mother's acceptance of the child. In the correlation analysis (see Table 5), neither the mother's conditional acceptance of nor her withdrawal from the child was significant.

H9: The young child who anticipates negative outcomes from communication is more likely to have higher CA than the child who anticipates positive outcomes. Negative outcomes were operationalized as marital conflict. The marital relationship was assessed by two scales from the mother's questionnaire. The Pearson product moment analysis (Table 5) showed no relationship between either scale and the child's self reported CA. The discriminant analysis incorporating all the variables operationalizing the child's expectations about communication is described below.

H10: The young child whose mother exercises too much or too little control over interpersonal outcomes is likely to have higher CA than the child whose mother exercises more moderate control.

Four scales measured the relationship between the mother's parenting style (control) and the child's CA. These scales were first tested for curvilinearity since the hypothesized relationship claims that both too much and too little control are related to CA. None of the data was curvilinear. The scales were next tested for
linear relationships with the dependent variable. Only one scale achieved a significant relationship (see Table 5). Using the Pearson product moment procedure, the mother's respect for the child's autonomy and shared decision making was related to the child's CA ($r = -.23$, $p = .05$). This relationship was in the expected direction with the mother's respect for the child's autonomy being related to the child's low CA. The discriminant analysis using the four control scales is described below.

In order to investigate the combined effect of these expectation variables, operationalizing expectations of evaluation, conflict, and diminished control, a stepwise discriminant analysis was computed utilizing all nine of the expectation scales. No significant discriminant function was found to differentiate high and low CA children.

At the level of individual variables and at the level of the individual models, negative expectations about communication seem to have little relationship to CA in early childhood. The hypotheses concerning parental control were rejected because the data were not curvilinear. However, the linear relationship between the control variables and the child's CA was explored further. In the linear analysis, only the Pearson product moment analysis of the association between the mother's respect for the child's autonomy and shared
decision-making scale and the child's CA supported a linear relationship between control and CA.

The four models suggested by existing research were individually not very successful in accounting for self-reported CA in young children. The trauma model could not be tested in a multivariate discriminant analysis because trauma was operationalized by a single score. Of the three remaining models, two, biological influences and reinforcement, were significant. The biological influences model accounted for only 14% of the variance and the reinforcement model explained only 9%. Since the measures of biological influence actually behaved more like measures of learned effects, the support for the separate models was weak indeed. In an attempt to enhance explanation, the four models were combined into a single composite model. The results from this analysis are presented in the next section.

**Composite Model**

In this section the four separate models were combined into a single composite model including all 16 variables. While the number of predictor variables (16) was large in relation to the number of cases available for analysis (54), the discriminant technique has been useful in similar circumstances as long as the number of predictor variables was one less than the number of cases.
The stepwise analysis found a significant discriminant function (Wilks' lambda = .62, p = .005, variance = 38%). This 16 variable model classified 71.7% of all the cases correctly. The centroid mean for the low CA group was .77 and the centroid mean for the high CA group was -.75.

Eight scales differentiated the high and low CA children. Three of these scales repeated from earlier discriminant analyses, the mother's own CA, her description of the child's rate of development, and her disliking of novelty. Removing the variance shared among the scales highlighted five additional scales as important in differentiating high and low CA groups. These scales were traumatic experiences of the child, maternal efficacy, maternal attachment to the child, the mother's high standards for the child's behavior, and her satisfaction with her husband as a parent. The structure matrix coefficients for these eight scales are reported in Table 6). The child's high CA was associated with the mother's preference for novelty, her recollection of the child as an early developer, her own low CA, her high standards for the child's behavior, her detachment from the child, her efficacy, and satisfaction with her husband as a parent. Additionally, the child with high CA was more likely to have experienced trauma. Five of these scales predict in the direction opposite that
hypothesized. Maternal CA, preference for novelty, recollection of child's rate of development, efficacy, and satisfaction with her husband all were found to operate differently than anticipated. The implications of these unexpected relationships will be examined in the discussion chapter.

The composite model was a more effective predictor of CA in early childhood. When the four models were combined, improvements were obtained in both an increase in explanatory power to 38% of the variance and an increase of nearly 22% above chance in the ability of the model to classify children as high or low CA.

The analysis of the composite model completed the analysis of the theoretical variables specified by available research. The correlation and discriminant analyses did confirm a relationship between the child's self reported CA and several parenting variables, although these relationships were frequently not in the hypothesized direction. In the following section, the results from the analysis of the demographic data are described.

**Demographic Variables**

In an attempt to further understand CA in early childhood, a number of demographic variables were examined. Table 7 shows the Pearson product moment
analyses involving these variables. The demographic variables pertaining to the mother have not been treated in the literature on CA in childhood. The demographic variables pertaining to the child have been linked to CA in a variety of studies, but only the age variable has shown consistent results (Cheek et al., 1986; Comadena & Prusank, 1988; McCroskey et al., 1981; Watson et al., 1984; Zimbardo & Radl, 1981). Studies involving gender have been inconclusive or have shown an interaction with age (Cheek et al., 1986; Garrison & Garrison, 1979; Zimbardo, 1986). The relationship of birth order to CA has been the subject of speculation and argument (Coopersmith, 1967; McCroskey, 1977b; Zimbardo & Radl, 1981), but little direct evidence has been provided.

In this study, the child's self reported CA was not significantly related to the child's age, gender, or birth order when analyzed by the Pearson product moment procedure. Neither the mother's age, nor her income, nor her number of children, nor her level of participation in the study were correlated with the child's CA.

Summary

In this chapter four separate models and a composite model of the etiology of CA were tested. Additionally, demographic variables were examined for their relationship to CA in early childhood, but none of these demographic variables contributed anything to the
understanding of the development of CA. The four models posited that CA would develop in relation to biological influences, the experience of trauma, maternal reinforcement of the child for communicating, and the negative expectations the child developed about communication. Two statistical analyses were performed on the data, a Pearson product moment analysis and a discriminant analysis. Between the two analyses, nine variables were shown to be related to the development of CA in early childhood. These 9 variables do provide modest (weak) support for the influence of trauma, of reinforcement, and of negative expectations on the development of CA. Children who experienced trauma were more likely to report high CA. Children whose mothers were more controlling were more likely to report high CA. Children whose mothers were more evaluative, as measured by their tendency to have very high standards for the child's behavior and by their conditional acceptance of the child were more likely to report high CA. These four variables provide modest support for the model. The remaining 5 variables all predict in the direction opposite that hypothesized. Three of the five are the strongest and most important variables in the study. Two are quite weak, but one of these shares an explanation with the three important variables. Children are more likely to report high CA when their mothers report low CA.
themselves, recall that their children developed early, prefer novelty, and report high efficacy. Although the mother's CA variable and the child's development variable were included as tests of biological influences, they do not operate in this study as measures of biological influence but as measures of potential interactive influence. The mother's preference for novelty operationalized the mother's tendency to reinforce the child for communicating. The argument was that mothers who valued change and difference would need, and hence value, communication and would be more likely to reinforce their children for communicating. In fact, the scale measuring the mother's efficacy is also part of this fabric. Children whose mothers report high efficacy are also more likely to report high CA.

In sum, there are five important conclusions from the analysis. (1) Some children do report CA in early childhood. (2) CA in early childhood is weakly associated with the child's experience of trauma. (3) CA in early childhood is weakly associated with expectations of parental control of interpersonal interactions. (4) CA in early childhood is weakly associated with the child's expectations of evaluation as operationalized by the mother's having very high standards for the child's behavior and by her conditional acceptance of the child. (5) CA in early childhood is likely to be related to a
complex of variables including the mother's low CA, her efficacy, her preference for novelty, and her description of the child as an early developer. The direction of the relationship between these variables and the child's CA was unexpected. In general, the results of these analyses do suggest that CA in early childhood is at least partially related to parental attitudes and self reports of behavior. In the next chapter, the question of the validity of the child's test and the implications of these results will be discussed.
CHAPTER IV
DISCUSSION AND CONCLUSIONS

Overview

The primary goal of this research was to explore the origins of communication apprehension, and the secondary goal was to identify communication problems between parents and children that contribute to CA. These communication problems could then be the subject of future interventions involving the mother-child dyad. To achieve these goals, it was necessary to study the existence of CA in the preschool population. What began as a routine test of the discipline's assumptions about the origins of CA in early childhood has found a startlingly different picture in some areas and a modest support for the assumptions in others. Prior research has posited four models for the development of CA. Biological factors, traumatic experiences, reinforcement problems, and negative expectations about communication were thought to be the sources of the discomfort and fear sometimes associated with communication. Although the CA
syndrome involves a complex of cognitive-affective and sometimes behavioral problems, in the current research, only the four hypothesized factors of biological influences, traumatic experiences, reinforcement problems, and negative expectations about communication were studied. In the current research, the biological factors hypothesized to influence the child's CA were the mother's own high CA level, the child's delayed development, and the child's reactivity or tendency to intense emotional response. None of these variables were related to the child's CA in the expected manner, and, thus, the biological model was not supported. Traumatic experiences such as injury, illness, death, and changes in family composition were examined for their relation to the child's CA. These traumatic experiences were modestly related to increased apprehension in communication. Factors leading to the reinforcement of communication such as the mother's efficacy, her consistency in discipline, and her preference for novelty and change, which require negotiation (communication) were considered for their impact on the child's CA. Again, none of these variables were related to the child's CA in the expected manner, and thus, the reinforcement model was also not supported by the current research. The final model concerned the child's expectations about communication. Expectations of frequent evaluation, interpersonal
conflict, and high amounts of parental control were examined. It was argued that expectations of evaluation were likely to be related to high CA. Expectations of evaluation were operationalized as mothers extremely high standards for their children's behavior and withdrawal from their children when the children fail to meet their standards. The results supported the relation of the mother's high standards and withdrawal to the child's high CA. Expectations of negative outcomes operationalized as interpersonal conflict were hypothesized to be associated with the child's higher CA. In contrast to this hypothesis, the results showed that mothers who were satisfied with their husbands as parents were slightly more likely to have children who reported high CA. Finally, expectations of parental control were related to CA in early childhood. Those mothers who did not permit their children to participate in making decisions which concerned the child were more likely to have children who reported high levels of CA than were mothers who shared decision making and thus, control, with the child. Neither the biological model nor the reinforcement model were supported by the current research, but the trauma and expectations models were modestly supported. Analysis of the biological and reinforcement models produced the three major findings of the project, but the variables from these models
behaved differently than anticipated, and thus they fell outside the parameters of either model. These three findings ran counter to the discipline's assumptions about the origins of CA: Mothers with low CA were more likely to have children with high CA. Mothers who preferred novelty were more likely to have children with high CA. And mothers who characterized their children as early walkers and talkers were more likely to have children with high CA. These three findings are the strongest and most important. If the current research is valid and reliable, these results are quite important. In this chapter, the issue of CA in early childhood is re-explored, the models are revisited, the unexpected findings are discussed, implications for intervention are drawn, problems with the current research are described, and suggestions for future research are presented.

Communication Apprehension in Early Childhood

Because both developmental theory and retrospective studies of adults with CA identify early childhood as the time of onset for some CA, and because the preschool age group has been largely ignored in CA research, it was necessary to determine the presence or absence of CA in the preschool population. CA does exist in the preschool population. Social scientists, psychologists and psychiatrists, social workers, teachers, parents, and
adults with CA have all argued that CA is present during early childhood. The mothers and teachers in this study were able to identify children whom they felt were uncomfortable or fearful of talking to others and engaged in less communication than other children. Some of the young children themselves reported that they disliked talking with and to other people. These children responded to anxiety relevant information in the questions, and they made CA relevant distinctions between certain communication targets and situations in their conversation during the interview. On the basis of theory, existing research, anecdotal evidence, and this current research, it is reasonable to conclude that CA does exist in preschool children.

As a qualifier, it is also necessary to add that there is likely to be proportionally less CA in the preschool population than in older populations. Younger children report lower levels of CA and older children report higher levels of CA (Cheek et al., 1986; McCroskey et al., 1981). In the current study, 5 year old children reported more anxiety than the three year olds. In the next sections the various models will be reconsidered.

Biological Influences on the Development of CA

The research did not support a relationship between these particular biological influences and the
development of CA in children. To establish a biological influence, one of three criteria must be met: the mother and child would have approximately the same level of CA, the child's CA would be related to the child's intensity of emotional reactions, or the child's CA would be related to delayed development. Although none of the expected relationships were found, the heredity argument might still be supported after an analysis of the father's data. Perhaps the child's father has high CA, and the child has inherited the tendency to have high CA from him. In general however, the analyses of these "biological influence" variables produced results that were more consistent with learning effects than with inherited or biologically determined personality traits.

Two of the supposed biological variables were related to the child's CA but in directions opposite that predicted. Finding that mothers with low CA were more likely to have children with high CA was quite unexpected, and the unexpectedness forces a re-examination of explanations. Providing such an explanation for the mismatching of mother's and child's CA is difficult because the existing CA literature makes little provision for such a result unless the child's father is a high CA. Prior CA research offers only one explanation for this inverse relation between mother and child CA that has to do with the nature of CA itself.
Although most research and informed speculation has claimed that low CA is the desirable category given a low, moderate, and high CA classification, McCroskey (1984, p. 21) suggested the possibility of low CA being "pathological" because in some instances it is appropriate to be anxious. The failure to experience this anxiety in such a situation is not normal and may even be problematic.

Other research fields suggest possible explanations for the unexpected inverse relationship. One such explanation is that for a young child, a low CA mother may put so much pressure on a young child to be outgoing, to interact with other children, to negotiate, and to make decisions that the young child may experience discomfort communicating. The child may have more opportunities for talking, performing, negotiating, or decision making than s/he can handle. Such a child who has been pressured or encouraged to communicate beyond his/her abilities may perform competently, but the child may still validly report CA because of the discomfort associated with communication. The reported discomfort may stem from a fear of not meeting the mother's standards, from participating in more communication than is desired, or from not being in control of a very basic area, one's interface with other people.
The argument that both the mother's characterization of the child's CA level and her standards for the child, might depend on her own level of CA is supported by Mash's (1984) study of families with problem children. Mash concluded that parents' perceptions of their children depended as much on the nature of the parent's personality and values as on the child's behavior and nature (p. 76).

Additional confirmation for this explanation comes from several of the preschool teachers. These teachers described children who were continually encouraged by their parents to be engaged in some activity and to avoid quiet time or time alone. The teachers felt these children were in too many activities and were being pushed beyond appropriate bounds for their age.

To clarify further the relationship between mother's and child's CA, a correlation analysis was undertaken to compare the mother's CA scores with her parenting attitudes and self reports of behavior. The mother's own CA was not significantly related to very many other parenting variables in this study. Mother's with high CA were more likely to describe their children as less adaptable and more reactive ($r = -0.27$, $p = 0.03$); they were more likely to dislike novelty ($r = 0.45$, $p = 0.000$); and they were more likely to put their children into day care at a later age ($r = 0.33$, $p = 0.008$). Alternatively, mothers
with low CA would be more likely to see their children as adaptable, to prefer and seek novelty, and to put their children into daycare at an early age. The delayed entrance to daycare and the disliking of novelty were expected because high CA mothers would be less likely to want to deal with interpersonal situations or with novel situations than low CA mothers (Buss, 1986; Cheek et al., 1986; McCroskey, 1977b).

The relation between the mother's CA and her descriptions of the child's adaptability are interesting. Mothers with high CA described their children as nonadaptive while low CA mothers described their children as adaptive. Two explanations could account for this finding. One explanation is that high CA mothers find the communication experiences involved in parenting more difficult than do low CA mothers. A high CA mother might be less verbal, might explain less, might be less effective at gaining compliance from the child or at using noncoercive compliance gaining strategies. For example, since teachers with high CA structure their classrooms so that communication is less important (McCroskey et al., 1981), perhaps parents with high CA structure their lives, including their parenting, so that communication is less important. When they have to communicate with their children they may dislike it.
The second explanation is that these children of low CA mothers were indeed more adaptable and compliant than the children of high CA mothers. In two studies involving mothers and infants mismatched on their need for and tolerance of intense interpersonal interaction, children became compliant and withdrawn after repeated failure to modify interactions with their mothers (Stern, 1977; 1985). The mothers were very talkative, very controlling, and very intrusive. They attempted to engage their children in more interaction and to increase the level of the children's emotional response. As the children of these mothers grew older, they retained this compliant quality. While they initially avoid communication with only their mothers, these children eventually avoided communication with everyone (Stern, 1985).

These mismatched scenarios contain many elements related to CA. Mothers who have higher needs for interaction parent children with low thresholds for arousal and less tolerance of interpersonal interaction. The mothers assume control of interactions with their infants either ignoring or not noticing the child's attempts to control or modify interactions. It is also possible that these children are less effective than other infants in their attempts to influence interactions. Thus, mismatched mother-child personalities
and parental pressure on the child may be related to CA in early childhood.

The second variable examined as a biological variable was the rate of the child's development. Again, the finding that children described by their mothers as being slower to develop were less likely to have high CA was surprising. What factors could account for this unanticipated result? First, the areas of development examined were few in number. Only age at walking, age at talking, and prematurity were included. Other variables may be more important in their impact on maturation delay in relation to CA. For example, Stern's (1977, 1985) studies of the mismatched mothers and infants suggested that delays in the development of the child's ability to regulate stimulation may have contributed to the misalignment of parent-child interactions. Second, the range of children in this study does not reflect the full spectrum of development, especially at the slow end. All the children are probably well within the "normal" category. Thus, genuinely delayed development is probably not present in the sample to affect results. There were two children about whom teachers expressed concern for developmental issues. Neither child was able to complete the interview, and as a result, both were dropped from the study. If it is true that the children in the study are within the normal range, it is interesting that even
within normal limits, the child's early or late development is significantly related to the child's self reported CA in the direction opposite that hypothesized. In the entire population of preschoolers, it might be expected that delayed development would be related to CA. But because of the limited range of developmental behaviors examined, and because all these children probably fall within the normal timetable for development, there is an unexpected positive relationship between the child's early development and high CA in this study. One possible explanation for the unexpected relationship links this developmental data with the prior explanation of parental pressure on the child. The mothers' remembering of when their children walked or talked may not accurately depict a child's rate of development, but may instead reflect the mother's image of the child's development (Hetherington, 1984; Mash, 1984). In this respect the variable may again be a measure of the mother's expectations for or image of the child (Abidin, 1986). Mothers who describe their children as walking and talking early may think of their children as more advanced than other children. If the variable reflects the mother's image of the child rather than actual developmental data, this variable may constitute an unobtrusive measure of the climate of expectations within the family. As an expectations variable, the data
provide more support for the description of the *Hurried Child* (Elkind, 1981) who is expected to reach developmental plateaus early.

Thus, while this study expected to find that the mother's high CA was linked to her child's high CA, that the child who was an early developer had low CA, and that the child who was more emotionally reactive had high CA, none of these biological relationships were supported by the current study. Although this study found no biological influences on CA, it is difficult to believe that none exist. Literature on shyness, sociability, infant development, and CA all claim biological factors affect the frequency and nature of interpersonal interaction. Perhaps a larger or more varied sample might confirm the existence of a relationship between inherited tendencies and biological factors and CA. Additionally, different operationalizations of the biological influence variables might produce the expected relationships.

Although the current research failed to find an expected relationship, the unexpected findings are, in one sense, more interesting. The important findings linking these supposed biological influence variables to childhood CA are two: Mother's with high CA were more likely to have children with low CA, and children who walked and talked early were more likely to have high CA.
These inverse relationships are more consistent with learning theory than with inheritance as an explanation for CA. While the linking of both the mother's low CA and the child's early development with the child's high CA are unusual, they are both consistent with an explanation of CA in early childhood resulting from parental pressure on the child. These findings are more interesting than the expected because they suggest that even within a sample of children considered to be at very low risk for CA, problematic interpersonal interaction may accompany the development of CA.

Trauma and CA

Having experienced traumatic events weakly differentiates high and low CA children. The mothers in the study recounted a variety of traumas ranging from the child's chronic ear infections to the death of either the child's sibling or father. The distribution of families experiencing trauma was quite skewed. Most families reported no trauma, 19 recounted experiencing only one type of trauma, and only 6 families recounted experiencing multiple traumas. In this research the trauma variable affected the mothers and their parenting but only weakly affected the child. Given it was the parent's conceptualization of trauma that was measured and not the child's, the finding of only a weak relation
between the child's self reported CA and the experience of trauma is not surprising (Brenner, 1984; Coleman & Ganong, 1987; Hetherington, 1984). Mothers who described their children and families as experiencing trauma were more detached from and less accepting of the child, were more controlling, were more inconsistent in discipline, were more likely to devalue communication, and were less satisfied with both their husbands as parents and their marriage in general. The traumatic experiences variable is indirectly linked to the child's CA through the effect it has on the mother's parenting behaviors. Perhaps the child was insulated from the trauma itself (Brenner, 1984; Coleman & Ganong, 1987). For example, in the families in which there had been a child death, that death was likely to have occurred before the birth of the preschool child in this study. While the loss of a child might modify the way in which a mother interacts with the remaining or subsequent children, the death itself cannot impact the child in this study. Clearly trauma was disruptive to the parent but less so to the child.

Reinforcement and CA

Of the three variables related to the mother's reinforcing of the child for communicating, both the mother's attitude toward novelty and her efficacy were important. The mother's preference for novelty was
related to both the child's and mother's CA. The mother's preference for novelty was positively related to the child's CA but inversely to her own CA. Thus, these mothers who valued novelty were more likely to have low CA themselves but to have children with high CA. Conversely, mothers who disliked novelty were more likely to have high CA themselves but to have children with low CA.

The novelty seeking variable was the most powerful variable in predicting the child's CA. This scale described a person who chose variety over sameness across many dimensions. The anomaly in this finding is that failure to habituate to novelty has been frequently advanced as a cause of CA. While it has been argued that the mothers with high CA would not be likely to confront novelty themselves, nor would they permit their children to experience enough novelty to get used to it, this research found that parental preference for novelty may be related to the child's high CA.

At first glance, the preference for novelty variable may seem an unusual way to operationalize reinforcement for communication. The mother's preference for novelty was included as a reinforcement variable because it was argued that preference for novelty would extend to all portions of the mother's life including interpersonal relations. Change and variety in interpersonal situations
increase the need for communication and negotiation (Fitzpatrick & Best, 1979). For example, if a wife/mother knows she is always responsible for cooking the evening meal, she does not need to talk to others about that arrangement (Hochschild, 1989). Alternatively, if no one person is typically responsible for the evening meal, then its preparation must be discussed and negotiated.

The rationale for including this variable was that if mothers valued novelty and were required to utilize communication to accomplish that flexibility, they would be more likely to value communication, their own and their children's, and, hence, to reinforce their children's communication. As a bonus, these mothers would also be likely to expose their children to the variety that would permit the child to habituate to novelty.

Given this argument for expecting a mother's preference for novelty to be related to her child's low CA, why was the reverse relationship found?

Perhaps by choosing variety over sameness, these novelty seeking mothers failed to provide the necessary amount of structure for their children. A certain amount of structure and order are desirable for a child (Gullette, 1987; Hetherington, 1984). For example, in response to this need for structure, preschools have divided the day into large blocks of activities which recur everyday. A specific time is set aside for group
activities, free play, snacks, and stories. Each day similar things are done during those times. The shift from one block of time to the next is clearly marked. The transition to group time is usually accompanied by a general clean up. The transition to going home is usually preceded by another general clean up. Additionally, preschool teachers talked a lot about structure and order. The children were reminded about structured time, rules of interpersonal interaction, the next activity, and what had been accomplished during the school day. Thus, in preschool the children not only experience time similarly each day, but the teacher's verbalizations about the day help the children build cognitive schemata of structure and order. While the preschools may consciously attempt to provide this structure, mothers who like novelty may dislike this kind of repetition. Children, however, may need the structure and repetition in order to learn to predict and to control (Gullette, 1987). Mothers who like novelty may provide too much flexibility and too little structure, while mothers who dislike novelty may provide more structure for themselves and, hence, for their children, too. The importance of structure to high apprehensives has been established in prior research (Booth-Butterfield, 1986) which found that high CA children prefer more structure than do low CA
children and they perform more competently in the more structured situation.

Given the findings in this research involving young children, the claim that experiencing variety and novelty diminishes the likelihood of CA requires modification. It is possible that a curvilinear affect exists with moderate amounts of novelty seeking being desirable but neither very low amounts nor extremely high amounts facilitating competent child communication. With very low exposure to novelty, the child will fail to habituate change, to the arousal, and to the need to adapt which accompany it. With very high exposure to novelty, the child may not get enough order to learn to predict.

Three factors may have influenced the unexpected operation of this variable, and all three support the argument that mothers with high novelty needs may provide too little structure for their children. First, the children in this study are very young. While exposure to novelty may be related to diminished CA in older children, these younger children may need more structure in their lives because they may not be able to distinguish mere variety from chaos (Hetherington, Cox, & Cox, 1982). Older children may be able to structure the increased variety because they have more complex structuring rules, but the younger child may require more repetition so that simple structuring rules apply (Smock
& Holt, 1962). Thus, the age of the child may partially account for the unexpected operation of this variable.

Second, the preference for novelty variable may have uncovered a dimension associated with family chaos. Hetherington and colleagues (1982, p. 244) described a set of families experiencing disorganization. She found that these families had "task overload" which was defined as difficulty accomplishing the basic tasks required for family life. Parenting in disorganized families was associated with fewer maturity demands, less affection, inconsistent discipline, and too little control (Hetherington et al., 1982, p. 252). Several of these factors have been described as relating to CA. Factors sometimes associated with task overload are dual careers, trauma, and divorce (Hetherington et al., 1982; Hochschild, 1989; Lamb, 1982; Moen, 1982;). Preschool children from disorganized families were more impulsive, inattentive, and distractable than their counterparts in less chaotic families (Hetherington et al., 1982, p. 274). In a study of use patterns of pediatric health care services, Abidin (1982) found that family disorganization was related to the frequency with which families experienced trauma involving their children.

Third, the preference for novelty variable may be related to positive outcomes for mothers but not for children. Hetherington (1984) described a group of
mothers who, in coping with the changes accompanying divorce, were very sensitive to their own needs but were rather insensitive to the needs of their children. The mothers spent little time with their child and when they did, the mothers were disengaged and preoccupied.

The second reinforcement variable was the mother's efficacy. The mother's high efficacy was associated with the child's high CA. Again, this finding was unexpected, but it fits with the larger pattern of unanticipated results. High efficacy should be inversely related to the mother's CA since feelings of low efficacy are often found to accompany high CA. Mothers who felt competent in interpersonal relations and in communication were expected to be more likely to stress the importance of communication to their children and to be more likely to encourage communication by the child. Thus, children with low CA were expected to have mothers with high efficacy. Again, this finding reinforces the possibility of the pressured child argument.

Clearly, both the preference for novelty and the efficacy variables suggest a positive attitude toward communication, but that positive attitude may not translate into parental reinforcement of the child's communication (Hetherington, 1984). For example, the mother's efficacy and preference for novelty may only enhance the value of her own communication and not the
child's. The videotaped data will provide the opportunity to test the actual behavioral reinforcement the child receives for communicating.

Expectations about Communication and CA

While prior research is quite clear on the impact of negative expectations about communication outcomes on the child's self reported CA, the results of this study were not as robust as expected. Only four of the nine expectations variables were associated with the child's increased apprehension. Only the scales measuring the mother's shared decision making with the child, her very high standards for the child's behavior, her withdrawal from the child when the child failed to meet her standards, and her satisfaction with her husband as a parent were related to the child's self reported CA. The shared decision making scale tested the expectations of control, and the maternal standards and withdrawal scales tested expectations of evaluation. While the satisfaction with her husband as a parent tested expectations of marital conflict, the relationship was opposite that predicted, and the relationship was very weak.

While expectations of evaluation, of conflict, and of control have been well documented in previous research as being of importance in parent-child relations, this research found these factors to be weakly associated with
increased apprehension. Perhaps the most important reason for this weaker than expected showing was that the expectations were operationalized as the mother's attitudes and self reports of behavior. Because of a desire to make the child interview as short as possible, the child was not interviewed as to his/her expectations. Data a step closer to the child's expectations will be obtained through the analysis of parent behaviors from the videotaped interactions, but even then, the child's expectations may be entirely different from the actuality of the parent's behavior. Each subsection of the expectations model will be considered separately below.

**Evaluation**

The mother's high standards for the child's behavior and her withdrawal from the child when the child failed to meet her standards were related to high CA. Both these scales focus on the failure of the child to meet the mother's standards. Having unusually high standards for the child has long been acknowledged as problematic in parent-child relations. In extreme cases the violating of parental standards may lead to child abuse (Hecht et al., 1986; Hetherington, 1984). The direction of these results was consistent with the earlier description of parental pressure on the child, and the results were in the hypothesized direction.
Interpersonal Conflict

Although the previous literature argues that interpersonal conflict in the home is extremely damaging to the child (O'Leary, 1984), there is little support in this study for the relation of interpersonal conflict to the child's CA. The mother's satisfaction with the husband as a father weakly distinguished between high and low CA children, but the relationship was in the direction opposite that hypothesized. However, the relation of this variable to the discriminant function is weak indeed. There are several possible reasons for the weaker than expected relationship between marital conflict variables and the child's self reported CA. First, these variables are measures of the mother's perceptions not the child's. A relationship that parents describe as being conflictual will not necessarily be described by the child as conflicted (Brenner, 1984; Coleman & Ganong, 1987). Investigations which have found significant relationships between marital conflict and child variables have assessed marital conflict through the child's eyes (Farber, 1962; Kemper & Reichler, 1976). Second, it is interesting to note that the marital conflict variable that is more important in the current study is the one that concerns the mother's satisfaction with her husband as a parent. Thus, in this study, general marital conflict is less important to the child.
than parental conflict about the parenting role. Third, the restriction of the sample to married couples weeded out the most conflicted relationships. Children in separated and divorced families have probably experienced more severe family conflict than have children in intact families. There were however, 14 remarried families in this sample. Fourth, the family's construction of conflict was not examined (Coleman & Ganong, 1987). For example, family's with less traditional structure (the novelty seekers for instance) are more likely to disagree and to negotiate everything because nothing is patterned (Fitzpatrick & Best, 1979). These disagreements may not necessarily be construed by them as conflict even though the disagreement might show up negatively on Spanier's (1976) marital adjustment scale.

**Parenting Style**

Of the four scales measuring a controlling style of parenting, only the mother's shared decision making was important. This scale measured a self reported parenting behavior that could easily be perceived by the child. The scale asked whether the mother involved the child in decisions that were relevant to the child. Several factors may account for the poor showing of the other three variables. First, control issues may be obscured by the young age of child. Because children are very young,
parents are expected to be more controlling. Several parents wrote on their questionnaires that these particular questions were not appropriate for the preschool age child. Second, the content of the manipulativeness scale is confusing. When the scale was shown to several mothers, they characterized it as describing ideal communication with children. Indeed the statements parallel parenting manuals describing parent-child interactions. However, when a group of younger, nonparents were shown the scale, they thought it was a measure of manipulativeness. Thus, there may be some confusion over the content of this scale and the nature of the behavior it probes. Third, a methodological problem may have developed with these scales. Three of the four are from the same test, the Parent Attitude Report Instrument (Schludermann & Schludermann, 1979), and all three measure authoritarian parenting attitudes. Because the discriminant program eliminates shared variance, these scales may have had a diminished impact since they all share at least part of the same conceptual area. In the future, use of just one of these scales might enhance its impact.

**Summary**

Thus, in exploring the factors thought to be associated with the development of CA in children, four
models were tested. Biological factors, the experience of trauma, the mother's reinforcement of the child for communicating, and negative expectations about communication outcomes were all considered in relation to the child's level of CA. The tests of these models developed a profile of maternal attitudes and self-reported behaviors related to the occurrence of CA in young children. This profile includes the mother's low CA, her efficacy, her recollection of the child as an early developer, her preference for novelty, her failure to involve the child in decision making, her satisfaction with her husband as a parent, her very high standards for the child's behavior, and her withdrawal from the child when the child disappoints her. This profile is supported by unpublished work by Hamilton (1980, cited in Abidin, 1986) who found a group of anxiously attached infants with mothers who were "characterized by self-assurance, self-expressiveness, dominance, and independence in their interpersonal relationships" (p. 25). This profile serves as the basis for the interventions outlined in the next section.

Intervention

A secondary reason for this research was the identification of communication problems in the parent-child dyad that contribute to the development of
CA so that problematic attitudes and/or behaviors might be modified. Because some of the findings were unexpected, more research is needed to clarify and confirm these results before an intervention program is developed and implemented. While most interventions to ameliorate CA focus on the individual with high CA, an implication of the finding that the child's CA is related to the mother's attitudes and self-reported behaviors is that intervention to remediate CA is required for both mother and child. Reflecting a systems approach to the development of CA, an holistic intervention program would be appropriate and would be likely to involve parent education workshops, practice sessions for perfecting new behavior patterns described in the workshops, and individual treatment of the child, if necessary. The discussion below will focus on education programs for parents.

One challenge to be overcome by the intervention is to develop a new approach to parent education. Because the parents in this study are already well educated, they have probably already absorbed the culturally available models of "good parenting." Just providing more information on child development might not be effective except in specific, limited areas. One somewhat unusual focal point around which to develop these education sessions is Guelette's (1987) observation that parent-
child relationships should be predicated on empathy and that in problem situations, an analysis of whose needs are being met in particular interactions should be undertaken. Facilitating parental empathy and practicing needs analysis might be two new avenues through which to approach parent education.

Two areas identified by the current research which lend themselves exceptionally well to the empathy and needs analysis approach are the mismatches between the mother and child in terms of CA level and preference for novelty. The mismatch between the mother's and child's CA suggests the need for increased empathy between mother and child. The low CA mother may need a better understanding of the child's preference for less communication. The mother needs to understand that she may exacerbate the child's discomfort and withdrawal by forcing the child into frequent communication situations. The low CA mother may need assistance in valuing the child with a quiet, less outgoing orientation than her own.

The mismatch between mother and child in the area of preference for novelty may be more difficult to ameliorate. Although mothers may desire a minimum of structure, the child's needs may demand a parental change toward providing a more consciously structured environment for the child. An analysis of both the
mother's and the child's needs may be helpful. Highlighting both mother's and child's needs may be a first step in securing a more comfortable environment for the child. Additionally, instruction may be needed in how children perceive and develop schemas for structure and how structure could be provided. The child may need an increase in actual structure, or through the preschool teacher's techniques of verbally providing structure, the mother might assist the child in cognitively structuring his/her world.

The more traditional type of intervention of mainly providing specific information on child development and techniques of child management meets the need in four areas identified by the current research. Bringing maternal expectations in line with developmentally appropriate behavior, developing more techniques for compliance gaining, separating disapproval of behavior from disapproval of the child, and techniques for increasing the child's participation in decision making are four areas that could be improved by an increase in information. Certainly one problem area identified in the current research is the need to bring parental expectations in line with developmental possibilities. Mothers may need to develop more realistic expectations for the behaviors and abilities of preschool children. Two different types of maternal expectations may be
operating here that may be problematic. Ames and Ilg (1976) note a tendency for parents to want their children to perform developmental tasks ahead of schedule. In one of their several books on parenting, they urge parents to avoid pushing their preschoolers toward inappropriate developmental plateaus. A second type of disparity between expectations and performance may exist because of an increasingly hectic pace in everyday life. For example, in her recent work, *The Second Shift*, Hochschild (1989) describes a "speed up" (p. 8) in family life in which working mothers have twice as much work to do and are constantly urging children to hurry to get things done. This description echoes Hetherington and colleagues' (1982) description of the disorganized families who are facing "task overload" and who have difficulty accomplishing the basic tasks necessary for everyday life. It may be that the unrealistic expectations are an attempt to get the child to be more mature and more self reliant so as to make fewer demands on an already overburdened parent. Whatever the cause, parental expectations need to be brought into line with the child's capabilities.

While mothers with low CA may need to better understand their less outgoing children, the mothers with high CA may need to increase their techniques for modifying children's behavior. These mothers may see
parenting as quite difficult because of the continual communication and negotiation that middle class child rearing demands. While these mothers may also require assistance in understanding and appreciating an outgoing child, they also need help in finding more noncoercive compliance gaining strategies.

One of the most destructive behaviors identified in this research was the mother's withdrawal from the child when the child disappointed her. The development of more reasonable expectations for the child's behavior and the development of a larger repertory of noncoercive compliance gaining strategies might help to partially alleviate this problem. Mothers should be helped to convey to the child that the child is loved regardless of his/her performance. Nonverbal behavior, and subtle or implicit messages might be the focus here. Additionally, the mother should be assisted in separating disapproval of behavior and disapproval of the child.

Comments that parents wrote on their questionnaires indicate that some parents are uncertain about how to involve their very young children in decisions which concern the child. Since failing to share decision making with the child was one of the problematic areas identified in this research, it would seem that increasing parental knowledge about how children can be involved in decisions given their young age would be
beneficial. Appropriate areas for shared decision-making should also be identified. Perhaps just sharing ideas on techniques with other parents would be helpful.

Although more research is needed before developing and implementing an intervention program, such a program could be expected to involve a dual focus on providing more information for parents as well as providing a new framework within which they might conceptualize interactions with their children. A focus on empathy and needs analysis might provide the basis for a new framework. If more research is to be undertaken before developing and implementing an intervention program, that research should consider the limitations on the current research which are discussed below.

Limitations of Current Research

The limitations of the current research fall into two major categories. First, there are problems with the operationalizations of some variables, with some of the measures, and with the models. Second, there are limitations on the generalizability of results. Each of these areas will be briefly discussed. First, there are weaknesses in the operationalization of some of the variables. None of the measures involve interpersonal interaction. This problem will be reduced when the videotapes of parent-child interactions are coded and
analyzed. The hypotheses relating to both the reinforcement the child receives for communicating and the child's expectations for communication outcomes need clarification with interactive data. The relationships which have already been hypothesized in this dissertation are the ones which will be tested further in the analysis of the interactive data. An additional problem with the operationalization of variables concerns the biological variables. Biological influence studies relevant to CA are usually conducted on infants where there is less contamination of biology by learning. With preschoolers, separating the biological influences from learned effects is very difficult, especially when the data is gathered exclusively from questionnaires.

The second and most serious problem with the operationalizations in this research concerns the validity and reliability of the child's self-reported CA measure. The question of the validity of the child's self-reported CA remains tentative. While the child's self-report does differentiate among the children, several questions remain. If these children were included in a large sample of 3-5 year olds, would they continue to fall into the same CA levels in the larger sample that they do here. The nature of the CA variable which basically classifies any sample into high, moderate, or low CA groups depending on whether they fall one standard
deviation above or below the mean (or 1/2 standard deviation above or below the mean as in this study) results in every sample producing some high CA respondents. Since the adult version of the CA measures have been administered so many times, informal norms have been established for the division into high and low categories. But for the new child measure used here, this issue is of importance. The child's measure also fails to distinguish different types of CA, and there is a need to differentiate children who are reticent because of introversion, skill deficits, or cultural differences.

Yet another question concerning the validity of the child's measure is whether children are able to self-report their CA. There are several arguments that support the child's ability to self report CA. First, there is variation across a single child's answers and across all the children's answers. Few children answered all questions "yes," all "no," or all "don't know." While some children answered that they enjoyed talking in all the situations and to all the targets, none of the children reported that they disliked talking in all the situations. Even the most apprehensive children enjoyed talking in some situations. Second, the children could and did talk during the interview about why they liked or did not like to talk in particular situations or to particular people. These discussions made sense and
focused on distinctions that an adult might make. Sometimes the children asked the interviewer a question about the question. Was the stranger to be met an adult or a child? Was the hypothetical companion child younger or older? These are factors that are likely to affect CA. Third, when the self report task was described to parents or to teachers, they asserted that the children would easily be able to report how they felt about talking in various situations because feelings were one of the frequent topics discussed with the children by both teachers and parents. The parents and teachers also reported that the children frequently reported to them how they felt about playing with particular friends. Fourth, modifications were made in the question and interview format to make both the task and the format appropriate for preschool children (Touliatos & Compton, 1983). Questions were simplified. The interview format was structured so that children chose between clear, specific alternatives, and so the answers were made by pointing to a happy, fearful, or uncertain face. Situations and targets were chosen for their familiarity to the children. Language was simplified. The children actually supplied some of the more complicated words that the interviewer had avoided using. For example, in one stimulus picture a child is meeting a new teacher who is described as taking the place of the regular teacher
while the teacher is sick. Several of the children told the interviewer that the target person was called a "substitute" teacher. Finally, while Buss (1986) claims that awareness of the self as a social object is necessary for the reporting of shyness, Bialer (1961) disputes that claim. Bialer argues that even young children are able to experience events as unpleasant and can attach fear and anxiety to those events. Hence, young children ought to be able to report that communication experiences are pleasant or unpleasant even though they lack elaborate perceptions of the self.

One result of the current research which at first seems to suggest that the child is incapable of self-reporting CA is the lack of agreement between the child's, teacher's, and mother's classifications of the child's CA level. Several points must be made in reference to this lack of agreement. First, the three raters agree on the classification of approximately 17% of the children. Second, the lack of agreement suggests that the child's self-reported CA is not accompanied by the obvious behavioral impairments frequently associated with CA. Third, the lack of agreement suggests that fearful shyness is not being measured. Fourth, it is not unusual for raters to disagree because they observe the child in different situations and because they are reporting on different things. Each of these points will
be briefly discussed. First, the child, mother, and teacher agree on the classification of approximately 17% of the children. There were child, mother, and teacher descriptions for only 60 of the 71 children in this study. The 17% on whom all three raters agreed translates to 10 children, 4 are high CA, 4 are moderate CA, and 2 are low CA. The 4 children whom all three raters agree are high CA are likely to be the most apprehensive children. These children are most likely to be the ones whose apprehension is accompanied by readily observable behavioral impairment such as repeated withdrawal from or avoidance of communication and skill deficits. All three raters, regardless of the situation agree these children are apprehensive. These children not only experience fear or discomfort but also are likely to exhibit behavioral symptoms. This claim should be tested in future research.

Second, the lack of agreement between the mothers, teachers, and children on the other children's classifications suggests that the children's self reported apprehension is not accompanied by readily observable inhibited, withdrawn or "maladroit" behaviors as it was with the agreed upon children. The lack of agreement implies that these children are reporting a private discomfort or fear which is the epitome of CA. The lack of observable behavioral impairment from CA is fairly common (Behnke, Sawyer, & King, 1987; Burgoon,
Pfau, Birk, & Manusov, 1987; McCroskey, 1970). In spite of a private discomfort, these children are apparently able to perform competently in some or, perhaps even most, situations.

Third, the lack of rater agreement suggests that fearful shyness is not being measured. Even Buss (1980) who claims that young children could not self report CA stemming from self consciousness because they lack the awareness of themselves as social objects would agree that this study should be able to identify fearful shyness, which is fear in the presence of strangers. This fear onsets during infancy and is obvious in clinging, crying, withdrawal, and avoidance behaviors. Such behaviors should be obvious to both mother and teacher. The raters' disagreement about the child's shy behaviors suggests that something other than fearful shyness is being identified.

Finally, it is not unusual for raters to disagree (Asendorpf, 1986; Dibble & Cohen, 1974; Lesser-Katz, 1986; Walker, 1973). Raters disagree because they observe the child in different situations and because they report on different things. Mothers, teachers, and children disagree because they observe the child in different environments (Asendorpf, 1986; Mash, 1984). Parents and teachers see children in different situations, interacting with different kinds of people, and operating
within a situation defined by different rules. Because of
the differences in the observational settings, parents
and teachers also may have different norms for the
child's behavior (Dibble & Cohen, 1974). The preschool
environment which is likely to emphasize peer
interactions gives the teacher a chance to observe a
child in a great many peer interactions (Asendorpf,
1986). Mothers may have less opportunity to observe peer
interactions especially large group interactions. Working
mothers may have even less chance to observe peer
interactions. Additionally, the children may behave
differently in one environment than another. In her
study of electively mute preschoolers, Lesser-Katz (1986)
found that 4/5 of the children who were mute at school
communicated normally at home. In addition to
theoretical support for the school and home being
different environments eliciting different child
behaviors, the preschool teachers in this current study
noticed that some children talked and behaved quite
differently with parents than at school. The teachers
described some parents who demanded children perform with
more maturity or skill than they had acquired.
Alternatively, other parents were described as
reinforcing inappropriate, immature behaviors. While in
the teachers' eyes some parents may be responsible for
encouraging some undesirable communication behaviors in
their children, behaviors that may be associated with CA, the teachers themselves may also be the stimuli for other such behaviors. While most of the preschool teachers were extremely caring and very nurturing with the children, one teacher was very gruff and behaved angrily and irritably toward the children. Although this teacher was no longer teaching several months after the study concluded, children in that classroom may have had quite different communication experiences at home and at school. More evidence of this difference in situations is revealed by a closer analysis of the mothers and teachers descriptions of the child's CA. There are eight questions that repeat on the mother's and teacher's measures, but an item by item analysis of these repeating questions reveals that the mothers and teachers disagreed on them too.

Raters may also disagree because they report on different things. Even when raters are observing the same child in the same environment, they may be observing different things or construing things differently. For example, peers and teachers disagreed as to the composition of close friendship dyads and status within groups as well as on variables highly relevant to CA such as withdrawal from interaction and social skills deficits (Walker, 1973). Even mothers and fathers disagree on descriptions of child behavior (Dibble & Cohen, 1974).
Observers may report on behavior and may attempt to infer feelings or cognitions, but only the child may self report feelings (Rubin, Graham, & Mignerey, 1990; Walker, 1973).

A last point to make is that this sample of children represents the worst case scenario for testing the existence of CA in early childhood. The children themselves are habituated to school attendance and thus to interaction with a large number of children. The preschool experience exposes them to variety and novelty and puts a premium on communication. The parents of these children are well educated and presumably are aware of the information on "good" parenting that is culturally available. The families are mostly middle class and well off financially. Although this sample of children does not fit the hypothesized profile of the high CA child, a number of the children do report higher than average levels of CA.

In spite of the lingering questions about the validity of the child's self report of CA, it does seem to differentiate children's comfort level with communication. While it may be that these children are not the most highly distressed communicators, the new measure does seem to identify, even with this restricted sample, some children who are more and some who are less apprehensive about communication.
In addition to question of validity, the issue of the reliability of the child's self report should be examined further. The child's measure was only a one time sample of the child's feelings about communicating. There is some evidence that the child's mood on the day of the interview had a great deal of impact on the results. For example, while one child gave consistently high CA type answers, the interviewer's prior observations of the class did not suggest that the child had high CA. A conversation with the teacher revealed that the child was in an extremely bad mood on the interview day but was usually outgoing and friendly. Future research should involve a test/retest paradigm to examine the reliability of the new measure.

Finally, there are two problems with the models as operationalized: The models account for little of the variance, and the models are largely unidirectional. Neither the models specified by existing research nor the composite model accounts for very much of the variance in the data. The most successful model, the composite model, accounts for only 38% of the variance. Two accounts for this weak explanatory power are that there are other factors not tapped by this research or that there is a great deal of error in the data. Both are likely to be true. Certainly the child self report data would be expected to have a great deal of error. Additionally, use
of the dichotomous dependent variable in conjunction with the discriminant analysis permits the development of only a single function. It may be that use of the three categories, high, moderate, and low CA, might contribute to a two function solution which would explain more of the variance. A second problem with the specified models is that in spite of comments reminding readers of the interactive nature of parent-child interactions, the models as tested implicitly focus on parental affects on the child. Additional thought should be given to testing the impact of the child's attitudes and behaviors on the mother's parenting.

The second major category of limitations on the current research concerned the generalizability of the results. Because the sample of both mothers and children was small and nonrandom, the results cannot not be generalized to the larger population. Still these results are interesting. They should be generalizable to other samples in which the mothers are well educated, middle class, and married, and in which the children participate in institutionalized child care settings. In future research a larger and more varied sample should be utilized.
Conclusions

The current research project was undertaken to address several weaknesses in the prior research on communication apprehension. First, there were few studies of the development of CA. Prior research has focused on the identification and treatment of CA in the adult and adolescent populations. What few studies there are that are concerned with the development of CA are generally retrospective studies in which apprehensive adults are asked when their apprehension onset and whether a checklist of variables are associated with the onset. Hence, there was a need to explore the etiology of CA. Second, because there were few studies of the development of CA, most writing on the etiology of CA was deduction, assertion, or speculation. Hence, there was increased need to understand the development of CA. Third, although there was speculation that CA onset in the preschool years, no work in the communication discipline had addressed this issue. Fourth, there was little recognition of interpersonal interaction as a contributory factor in either research or treatment literatures. Although speculation about factors associated with the development of CA suggest interpersonal interaction problems as one class of contributory factors, research on CA continues to be
focused largely on individual psychology or on qualities of situations that trigger CA. Treatment programs continue this twin focus by aiming treatment at individual personality deficits and at desensitizing individuals to those factors of situations that arouse apprehension. Thus, one purpose of this research project was to identify interpersonal interaction factors that contribute to the development of CA which might serve as focal points for system based intervention programs involving both mothers and children. To fulfill these intentions, the development of CA was explored through extensive data gathering involving child interviews, mother and teacher questionnaires, and videotaping of mothers and children playing together. The video taped play sessions were not analyzed for this research.

Because no measures of CA for the preschool child existed, the development of such a measure was crucial for this research. Three measures of the child's CA were developed. The child's self report of CA was the dependent variable. The children were able to report various degrees of CA. Some children reported that they enjoyed talking in nearly all situations while others reported that there were few situations in which they were comfortable interacting with others. A factor analysis of the children's responses revealed that the nature of the target, especially the familiarity of the
target, affected their apprehensiveness during interpersonal interaction. While there are legitimate remaining questions about the reliability and validity of the child measure, and while future research should examine these areas, the child's self report does differentiate children on the basis of their comfort with communication.

The two other measures of the children's CA which were created for this research were descriptions by the mothers and teachers of the child's CA. Both these measures consisted of two scales, a verbalness scale and a discomfort scale. The mothers, teachers, and children agreed on the classification by CA level of 17% of the children. Only 4 of these 10 children on whom all three groups agreed, were highly apprehensive. Although the agreement is small, it does suggest that there are a few children who are so severely impaired by CA that their distress is obvious to all. Two arguments are suggested by the lack of agreement. With the exception of the four on whom mothers, teachers, and children agree, the high CA that is reported seems to be a private CA that is not accompanied by obvious behavioral impairment that would be obvious to all. The disagreement between mothers and teachers suggests that behaviors differ from setting to setting and/or that different behaviors serve as markers of CA in different environments.
Prior research suggested four sets of factors would be related to the development of CA: biological influences, the experiencing of trauma, problematic reinforcement, and negative expectations about CA outcomes. Each of these sets of factors constituted a model and was individually tested for its relation to the child's CA. In an attempt to understand CA more thoroughly and to predict CA more completely, these 4 models were combined in a composite model which was tested for its ability to predict the child's CA. The composite model was the most successful. It predicted the correct high/low classification for approximately 72% of the children. Unfortunately the composite model explained only 38% of the variance. Nine variables were identified as being involved in the complex etiology of CA. These 9 factors were the mother's attitude toward novelty, her recollection of the child's rate of development, her own low CA level, her standards for the child's behavior, her attachment to the child, the mother's efficacy, her attitude toward her husband as a parent, her sharing decision-making with the child, and the family's experiencing of trauma. Two of the four models originally hypothesized were supported by these results. Experiencing trauma and developing negative expectations for communication outcomes were related to increased apprehension during communication. Negative
outcomes were operationalized as evaluation of the child by the mother and high levels of maternal control. However, the findings in support of these two hypothesized models were weak. Stronger findings related the mother's preference for novelty, her own CA level, and her recollection of the child's development as accelerated to the child's increased apprehension. While these latter three findings run counter to the prevailing wisdom in CA research, they can be accounted for by two potential explanations. Mothers who prefer novelty and variety in their own lives may fail to provide enough structure for the child who needs a certain amount of repetition and sameness to develop a sense of the pattern and contingency in interpersonal relations. The parent who favors novelty may violate the reinforcement consistency proposition and thus may promote the development of CA. Mothers with low CA and mothers who remember their children as developing early are also likely to have children with high CA. These mothers may facilitate the development of CA by pressuring children to engage in too much interaction or too much communication. The mother's over demandingness may occur because she is unobservant of the child's control attempts, because she may be attempting to encourage the child to recalibrate his/her system needs for interpersonal interaction and for emotional
responsiveness, or because she may be encouraging the child to fit her image of communication or of appropriate child behavior.

Finally, one must ask about the contributions of this research to the study of CA. This research project did begin to address some of the weaknesses and/or omissions of the prior research. It did focus on the development of CA during early childhood. Nine interpersonal factors were identified as contributing to the development of CA. These factors were incorporated into the outline of a potential intervention program. Additionally, three new measures of CA were developed. Each factor and new measure represents a step toward better understanding CA in early childhood. If the child measure is valid and reliable, the presence of CA in early childhood has been documented, and it has been determined that young children are able to self report CA. This finding means that CA itself may be studied in this age group rather than related variables such as sociability or verbalness. Limitations were placed on the proposition that exposure to novelty leads to low CA. Most unexpectedly, low CA parents were not able to guarantee that same orientation in their children. Last and most important, the development of CA in early childhood was linked to interpersonal factors. Linking interpersonal factors to the development of CA expands
the locales in which both the causes and treatments for CA may be sought. In all these areas, research has merely begun to scratch the surface. In the following section, suggestions for future research will be made.

Future Research

While it is tempting to list several pages of suggestions for future research, the following suggestions will be limited to studies of: 1) the validity and reliability on the measure of the child's self reported CA, 2) the impact of preference for novelty and of the mother's CA level, 3) the father data, 4) the need for interactive data, and 5) the implications of CA in early childhood. A longitudinal study would be a very effective method of integrating these proposed studies.

First, the validity and reliability of the child's self report of CA should be further investigated. Unfortunately, such an investigation would entail more extensive child interviews. In the next study, a test/retest paradigm should be undertaken to confirm the reliability of the child's self reported CA. Additionally, to explore the predictive validity of that measure, measures of self esteem and of general anxiety should be added to the child interview.

Second, since the most robust relationship in this study involved the mother's preference for novelty, that
relationship should be explored and directly tested. More investigative research should be undertaken on the relationship between preference for novelty and general personality structure to develop several hypotheses about the relationship between novelty and behavior which might be related to parenting and to the child's CA. A more thorough examination is needed of the relationship between a parent's communication style, or communication personality, and the child's communication style including CA. This research has suggested that the relationship is more complex than has been asserted in CA literature.

Third, there is a need for father data to integrate with the mother data. Having data on the father's CA would permit a more thorough consideration of the issue of biological influences on the child's CA. Availability of the father data would also provide a richer description of the parenting influences experienced by the child.

Fourth, there is a need for interactive data with which to test these hypotheses. The hypothesized relationship between the child's reinforcement for communicating and low CA requires interactive data for a test. Likewise the child's expectations are built on specific parenting behaviors such as evaluation,
conflict, and control. The interactive data would be expected to be more strongly related to the child's CA.

Fifth, while the cognitive-affective and behavioral implications of CA were ignored in this study, mapping these problems would be useful in understanding the etiology of CA as well as in the development of interventions to ameliorate CA. It is likely that the cognitive-affective problems associated with CA in the preschool population would be quite different from those associated with CA in the adult population. Attempts to identify these problems might also illuminate the extent to which awareness of the self as a social object does develop in the preschool population and might add understanding to the debate as to whether perceiving the self as a social object is a necessary precursor to the development of CA.

In order to answer the questions posed by this research and to further explore the nature of CA, a longitudinal study should be undertaken. A longitudinal study would permit consideration of the development of CA overtime. Does the child "outgrow" his/her CA, or does the child become more apprehensive? A longitudinal study would permit investigation of the relationship between the mother's and child's images of the child's CA. What happens to children who report that they are not apprehensive but whose mothers say they are? Do mothers
create CA children by responding to the children as if they were high CA (Beatty, Plax & Payne, 1984; Galinsky, 1981)? Or does pressure by the mother for the child to increase communication expand the behavioral and experiential repertoire of the inhibited child and thus move that child out of a CA prone state (Stern, 1985)? A longitudinal study would also permit examining the issues of the reliability and validity of the child's self report. The child's self reported CA could be sampled at various points in time, and as the child matured, other measures of the child's CA could be added. A longitudinal study would permit ascertaining whether the mother's CA and preference for novelty were inversely associated with the child's CA only for young children or whether these findings generalized to the older child and to the larger population. Thus, a longitudinal study would permit examining several questions of interest from the current research.

Summary

While this research has brought some unexpected results and the suggestion of new issues to pursue in future research, there has also been partial support for the assumptions about the origins of CA. The partial support came from the findings that expectations of evaluation and of control and the experiencing of trauma did differentiate high and low CA children. Thus, the
trauma and expectations models were at least partially supported. The unexpected findings came on two fronts. First, the current research failed to find either the expected relationship between biological influences and CA or between reinforcement and CA. Both these links have been strongly supported in psychological research. However, while the hereditary link was not found, neither was it totally rejected. Future analysis of the father's data may yet confirm these links. Second, unexpected findings suggested that mothers who have low CA themselves, who preferred novelty, and who described their children as early developers were more likely to have high CA children. Research is needed in these three areas before their relationship to CA in early childhood is fully understood.
APPENDIX A

TABLES
Table 1

CA LEVEL AS A FUNCTION OF AGE

<table>
<thead>
<tr>
<th>Child's CA Level</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Low</td>
<td>11</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Row Pct</td>
<td>42.3%</td>
<td>46.2%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Col Pct</td>
<td>39.3%</td>
<td>36.4%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Moderate</td>
<td>9</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Row Pct</td>
<td>52.9%</td>
<td>41.2%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Col Pct</td>
<td>32.1%</td>
<td>21.2%</td>
<td>11.1%</td>
</tr>
<tr>
<td>High</td>
<td>8</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Row Pct</td>
<td>39.6%</td>
<td>51.9%</td>
<td>18.5%</td>
</tr>
<tr>
<td>Col Pct</td>
<td>28.6%</td>
<td>42.4%</td>
<td>55.6%</td>
</tr>
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<td>Column</td>
<td>53</td>
<td>68</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>37.1%</td>
<td>47.6%</td>
<td>15.4%</td>
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<tr>
<td>28N</td>
<td>40%</td>
<td>47.1%</td>
<td>12.9%</td>
</tr>
</tbody>
</table>
### Table 2

**CORRELATIONS BETWEEN THREE MEASURES OF CA IN EARLY CHILDHOOD**

<table>
<thead>
<tr>
<th>Child's Self-Report of CA</th>
<th>Mother's Report of Child's CA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother's Report</strong></td>
<td></td>
</tr>
<tr>
<td>of Child's CA</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>p = .31</td>
</tr>
<tr>
<td>(70N)</td>
<td></td>
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Table 3

CORRELATION MATRIX FOR INDEPENDENT VARIABLES*

Legend
A  Mother's CA
B  Child's Delayed Development
C  Child's Adaptability
D  Trauma Index
E  Mother's Consistency
F  Mother's Efficacy
G  Mother Dislikes Novelty
H  Mother's High Standards
I  Mother's Acceptance of Child
J  Mother's Attachment to Child
K  Mother's Marital Adjustment
L  Mother's Satisfaction with Spouse
M  Mother Shares Decision Making with Child
N  Mother's Intrusiveness
O  Mother's Manipulativeness
P  Mother Discourages Verbalization of Disagreements
Table 3 Continued

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*The top value in each cell is the correlation; the bottom value in each cell is its probability.
Table 4

**COMPARISON OF CLASSIFICATIONS OF CHILDREN BY CA LEVEL**

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<th>Mother's Description of Child's CA</th>
<th>Teacher's Description of Child's CA</th>
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Table 4 continued

Child Self-Reports Moderate CA

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Child Self Reports High CA

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CORRELATIONS BETWEEN CHILD’S CA LEVEL AND MEASURES OF MOTHER’S ATTITUDES AND SELF-REPORTED BEHAVIORS

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<td>Mother Dislikes Novelty</td>
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<td>p .02*</td>
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<td>Mother's High Standards</td>
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<td>Mother's Acceptance of Child</td>
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<td>Mother's Attachment to Child</td>
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<tr>
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<td>Mother's Satisfaction with Husband as a Parent</td>
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<td>Mother Respects Child's Autonomy</td>
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*Relationship is significant at the .05 level
# Relationship is in the unexpected direction
Table 6

ALTERNATIVE MODELS OF THE DEVELOPMENT OF CA:

STRUCTURE COEFFICIENTS

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Table 7

CORRELATIONS BETWEEN CHILD'S CA AND DEMOGRAPHIC VARIABLES

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APPENDIX B

SOLICITATION LETTERS AND PERMISSION FORMS
Solicitation Letter to Preschool Director

Dear Preschool Director (Substitute director's name):

In discussing my doctoral research project on children's communication skills with Dr. Rebecca Kantor, Director of OSU's preschool, I broached the subject of which preschools might be interested in participating. She suggested that my advisor and I contact you.

We are undertaking a long term study of the development of children's communication skills. Our interest is in the integration of both language and interaction. The initial focus of this study is the development of normal communication skills of preschool children. At this point we must identify preschoolers and their parents whom we could interview now and whom we could follow throughout the child's elementary school career. We would like to develop a pool of approximately 100 children and their families.

The study would have four parts. The first part is a child interview of approximately fifteen minutes that would be conducted by our interviewer during the normal preschool day. The conversation between the child and the interviewer would be tape recorded. The second part is a teacher rating of each participating child on the basis of selected communication behaviors. Third, there is a questionnaire for parents which they would complete at home. This questionnaire would be distributed through and returned to the preschool. The final portion of the study is an interaction observation involving the child and both parents. Although the interaction observation is optional, we would, of course, like to have as many families as possible participate in it.

As you can see, the study would obviously involve some participation by the preschool. We will interview each of your three, four and five year old children (whose parents have given permission for the interviews) individually during the school day. We would need a quiet area for this interview. We would expect our interviewer to spend at least one morning in the classroom prior to the interviews to remove some of the stigma of being a stranger. Additionally we would like to be able to disperse questionnaires through the preschool and to place a box there for their retrieval. The teachers will be asked to rate each participating child's communication behavior on a very short questionnaire. This rating may be completed at the teacher's convenience as long as it is finished within two weeks of the child's interview.
Finally, a short letter must be sent to the Human Subjects Review Committee of the Ohio State University indicating that you are permitting us to solicit participants from among your students' families.

In order to make participation more attractive, parents who complete a three part questionnaire, who give permission for their child to be interviewed, and who participate in the interaction observation would be eligible to compete in a lottery for three prizes. First prize is a youth scooter from Constructive Playthings (valued at $45.00). Second prize is a dinosaur game suitable for 4-6 year olds (valued at $20.00). Third prize is a puzzle that teaches colors and shapes from the Boston Museum of Art (valued at $16.00).

Additionally a program on adult-child interaction would be conducted by Dr. Laura Stafford of the Department of Communication of The Ohio State University. This presentation would be available to both parents and preschool staff. While no feedback would be given to either the parents or to the school about the performance of individual children, this program would address areas of parent and teacher concern.

The data in this study will be kept confidential. All reports from the study will be statistical, and no names of participants will be released. The research team will have access only to those questionnaires on which numbers identify family units and members.

The study will be supervised by Dr. Laura Stafford, Assistant Professor of Communication at The Ohio State University, and conducted by Judith Weisberg, a doctoral candidate in the OSU Department of Communication. Either Dr. Stafford or Mrs. Weisberg will be contacting you about participating. We will try to answer any questions or concerns you may have at that time. We are available at the following numbers should any questions or problems arise: Mrs. Weisberg at (phone number) or Dr. Stafford at (phone number), if you need to speak to the supervising professor.

Thank you for your consideration.

Sincerely,

Judith Weisberg                        Laura Stafford
Doctoral Candidate                      Assistant Professor
Permission Form for Preschool Director

To: The Human Subjects Review Committee

From: Participating Preschools and Daycare Centers

The _________________________(Name of daycare or preschool)
has given permission for Judith Weisberg and Dr. Laura
Stafford to conduct research involving this organization.

Signature: __________________________ (Director)
Dear Parent of a Preschooler:

The Ohio State University's Department of Communication is beginning a long-term study of children in an attempt to learn more about the development of communication skills in childhood. We are interested in the integration of both language and interactive skills in the normal communication of preschool children. This year's project is to be the basis for my dissertation. I am requesting your participation in our study.

The study will have four parts which I hope to complete this spring quarter. The first part of the study is an interview of your preschool child. Your child will be interviewed in his or her normal classroom during the regular school day. This interview will take between ten and fifteen minutes. The child will be asked to talk about pictures from story books and about television shows. In this interview, the conversation between the child and the interviewer will be tape recorded. In the second portion of the study, one of the preschool teachers will be asked to describe your child's communication at school. The last two parts of the study involve parents. The third part of the study will be a questionnaire which each parent will be asked to complete at home. The questionnaire will be picked up at the preschool and may be returned there in a sealed envelope or may be mailed to the researchers in a stamped, self-addressed envelope that will be provided. The entire questionnaire will take about 75 minutes to complete, but it need not be completed at one sitting. You may put it aside and pick it up again whenever you have time. You would have a two week period in which to complete the questionnaire. Of course, all information would be confidential. The fourth portion of the study is a parent-child interaction. Each parent will be videotaped interacting with the child for about 15 minutes. These sessions would occur at the University and would be scheduled at your convenience. While this interactive portion is optional, we would encourage parents to participate as this provides us with more objective observations of communication skills.

In conjunction with the study, a program on adult-child interaction would be conducted by Dr. Laura Stafford of the Department of Communication at The Ohio State University. This program would be available to both parents and preschool staff. While no feedback would be
given to either the parents or to the school about the performance of an individual child, this presentation would address areas of both parent and teacher concern.

The data in this study will be kept confidential. All reports from the study will be statistical, and no names of participants will be released. The research team will have access only to those questionnaires on which numbers identify family units and members.

Two permission forms are enclosed. If you are interested in participating to help us learn more about the development of communication skills, please sign these forms. Keep one copy for your own records and return the other to the box that has been provided at the preschool. If you sign the permission forms now and decide later that you do not wish to continue with the study, you may drop out at any time.

The study is being conducted by Dr. Laura Stafford, Assistant Professor of Communication at The Ohio State University, and by Judith Weisberg, a doctoral candidate in the OSU Department of Communication.

If you would like more information before making a decision, please call Judy Weisberg at (phone number). If you would rather speak to the supervising professor, please call Dr. Stafford at (phone number).

As part of this research we would also like to identify preschoolers whom we might follow throughout their elementary school years, but agreeing to long term participation is not required for participation in this study.

Remember if you have any questions or wish further explanation please call us.

Thank you for your consideration.

Sincerely,

Judith Weisberg
Doctoral Candidate

Laura Stafford
Assistant Professor
Permission Form for Parent and Child Participation

The Ohio State University      Protocol Number ________

CONSENT FOR PARTICIPATION IN
SOCIAL AND BEHAVIORAL RESEARCH

I consent to participating in (and for my child's participation in) the research project entitled:

Communication Skills in Early Childhood

Dr. Laura Stafford (Principal Investigator) or her authorized representative has explained the purpose of the study, the procedures to be followed, and the expected duration of my participation and my child's participation. Possible benefits of the study have been described.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Further, I understand that my child and I are free to withdraw consent at any time and to discontinue participation in the study without prejudice to me or to my child.

Finally, I acknowledge that I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: ___________    Signed: ____________________

(Participant)

Signed: ____________________

(Principal Investigator or her Authorized Representative)
Letter to Accompany Parent Questionnaire

Dear Preschool Parent:

Thank you for agreeing to participate in this research project! We sincerely hope that the time that we all spend working together on this study will contribute to our understanding of childhood communication.

Enclosed you will find the parent questionnaire. If this is a two parent family and both parents have agreed to participate in the study, both parents should complete a copy of this questionnaire. Please don't discuss the questionnaire or your answers with your spouse. When you have finished, please seal the questionnaire in the envelope we have provided and return it at once to the box marked "Communication Study" located at the preschool. Don't wait for your spouse to complete the other questionnaire.

If this is a one parent family, or if only one parent has agreed to participate in the research, please return the uncompleted questionnaire along with the completed one. Seal your questionnaire in the envelope and return it to the box marked "Communication Study" located at the preschool.

The entire questionnaire will take about 75 minutes to answer. However, you do not have to complete the entire questionnaire in one sitting. If you wish to work on it in stages, you may stop after completing any scale. Pick it up again when you have time. Do be sure to finish one entire scale before setting the task aside. If we haven't received the questionnaire within three weeks, we will call to remind you to return it.

While you are working on this questionnaire, we will begin interviewing children at the preschool and asking teachers to describe the children's school time communication.

When the questionnaires have been completed, we will contact you to schedule a time at your convenience for the parent-child play interaction. At that time we will also provide directions and parking information.

Remember, if you have any questions or problems, call us. Also remember that you may withdraw at any time you wish, but to be eligible for the toy lottery, the questionnaires, the interaction observation, and the child interview must be completed. We will also provide
information on Dr. Stafford's adult-child interaction workshop as plans for that are finalized.

We hope that you and your child enjoy participating in this research. We have gained both research and parenting insights from developing the study materials, and we hope that you may find it worthwhile to take a bit of time to think about the questionnaire items.

Again, thank you for your participation.

Sincerely,

Judith Weisberg
(phone number)

Laura Stafford
Solicitation for Interaction Scheduling

Dear Parents,

We want to thank you for all the time you spent on the questionnaires. Many of you wrote comments in the margins in addition to answering the questions. These comments will help us to interpret your answers and to revise the questions if portions of this questionnaire are used in the future. As usual, questionnaires never seem to have the answer category that exactly expresses how you feel about a question, and several of you noted frustration with that aspect of the study. To deal with that frustration, we may change some sections to more open ended responses in the future. Talking to your children has been delightful! We have now interviewed over 100 children in the Columbus area. Because these interviews were so enjoyable, it is difficult to bring the child interviews to a close and move on to other aspects of the research. This project has been a valuable learning experience for me that I could not have obtained from reading more books and articles. The cooperation of children, parents, teachers, and directors has made this research project possible.

We are now ready to begin scheduling the final stage of the communication study, the parent-child interaction. In this part of the study, we are interested in observing a natural play situation. We have two sets of play materials: art supplies and building blocks. Parents and child will choose one of these sets of materials and play together as naturally as possible for about 15 minutes. These play sessions will be video taped.

Scheduling for the interaction is very flexible: we are available morning, afternoon, and evening, through the week and on weekends, before and after the end of OSU's quarter. The OSU daycare center is able to give us space for the videotaping. You would have your choice of taping at the day care center or at Derby Hall.

We understand that parents are very busy and that not all of you will be able to or will want to participate in this portion of the study. Please indicate below whether you are interested in the videotaping. If you are interested, please provide your name and your phone number. Please return the form even if you are not participating as it will greatly simplify our record keeping, and we won't have to bother you again.
We are also interested in finding out at this time whether you would permit us to contact you in a year (1989) with information concerning our next study. You may participate in the next study without participating in the parent-child interaction.

If you have any questions, please call me at (phone number).

Publicity will be sent to you soon concerning the child communication program that my advisor, Dr. Laura Stafford, will be presenting. There will be two programs that you may choose between. The date for the first has been set as April 11 from 7:30 to 9 in the evening at the Upper Arlington Child Care Center. The second program has been tentatively scheduled for Wednesday, May 4th over the noon hour. This second program will be held at a location in downtown Columbus. Publicity and maps will follow, but mark these dates now on your calendar.

Thanks again for your participation.

Sincerely,

Judy Weisberg Laura Stafford

PARENT-CHILD INTERACTION

Yes, (I) (we) (circle one) am/are interested in participating in the parent-child interaction. Please call to schedule a convenient time.

Signed: ____________________________ Phone: __________

No, (I) (we) (circle one) am/are not interested in participating in the parent-child interaction.

Signed: ____________________________
LONGITUDINAL STUDY

Yes, (I) (we) (circle one) am/are interested in receiving information about your next communication study to be conducted in 1989. I understand that receiving this information in no way commits me/us to participating in that study. (This research will involve another child interview, but the parent questionnaire will be VERY short and there will be no parent-child interaction observations.)

Signed:________________________________________

Address:________________________________________

________________________________________

Please return this form to the communication study box at the preschool.
Solicitation Letter for Preschool Teachers

Dear Preschool Teacher:

Several weeks ago we contacted your preschool and received permission from the Director to solicit participants for a study on the development of communication skills in early childhood from among your students and their families. Several families from this preschool have agreed to participate.

To provide supplemental information on the child's communication in a variety of settings, we are asking you to fill out a 16-item questionnaire on each child who participates in the study. This questionnaire may be completed whenever you have time as long as it is finished within two weeks of the date the child is interviewed.

The questionnaire identifies several communication behaviors in which we are interested. The data from your questionnaires will be combined with interviews of each child and his or her parents and a video taped parent-child interaction to give us a more accurate picture of the child's behavior.

The data in this study will be kept confidential. All reports from the study will be statistical, and no names of participants will be released. The research team will have access only to those questionnaires on which numbers identify family units and members.

When you are finished with all of the questionnaires, put them in the envelope, seal it, and put it in our pick-up box.

We appreciate your willingness to provide this additional information for the study. If you have any questions or problems, please call Mrs. Judith Weisberg (phone number) or if you wish to speak to the supervising professor, call Dr. Stafford (phone number).
Teacher's Consent Form

Consent for Participation in Social and Behavioral Research

I consent to participating in research entitled:

Communication Skills in Early Childhood.

Dr. Laura Stafford (Principal Investigator) or her authorized representative has explained the purpose of the study, the procedures to be followed, and the expected duration of my participation. Possible benefits of the study have been described as have alternative procedures, if such procedures are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Further, I understand that I am free to withdraw consent at any time and to discontinue participation in the study without prejudice to me.

Finally, I acknowledge that I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.
APPENDIX C

MEASURES OF CHILD'S COMMUNICATION APPREHENSION
Child's Self Report of Communication Apprehension

I. Introduction:

Hello, (child's name.) My name is ___. I am visiting preschools in Columbus to talk to the children about how they feel about talking to other people.

I've brought a tape recorder with me to record what we say to each other so that I can listen to the recording at home to help me remember what we say.

While we are talking you should tell me any time you need to stop. You may stop any time you need to.

II. Interview

I have some pictures of children, parents, teachers and adults. I'll show you a picture of a child talking to these other people, and then I'll ask you how you feel about talking to each of them. To tell me how you feel, you should point to one of these three faces.

This is a very happy face. This face likes what s/he is doing or what s/he sees.

This face is making a shrug. (Demonstrate) This face doesn't know how s/he feels.

This is Mr. Yuk Face. He says I don't like this.
1. Let's try several pictures just to make sure you understand the faces. Here is a picture of a (boy/girl) and (his/her) father. They are both sick; they have bad colds. They are looking at their thermometers. Which face shows how you feel when you are sick? Do you feel happy, yukkie, or are you not sure how you feel? (Prompt: Point to the face that shows how you feel.) You chose the face that is ____. (Prompt: Is that how you feel when you are sick?)

2. Okay. Let's try again. Here is a picture from Sesame Street. Mr. Snufelophufugus is having dinner at Grover's house. Grover's mother invited Snuffie to stay for dinner. Which face shows how you feel when you eat dinner with a friend? (Prompts: Do you like to eat at a friend's house, do you dislike eating at a friend's house, or are you not sure how you feel about eating at a friend's house? Point to the face that shows how you feel. You chose the face that is _____. Is that how you feel when you eat at a friend's house?)

3. Here's another picture of two friends arguing. They can't agree on what game to play or who should be the leader. Which face shows how you feel when you argue with your friend? (Prompts: Do you like to argue with your friend, do you dislike arguing, or are you not sure how you feel about arguing with a friend? Point to the face that shows how you feel. You chose the face that is


4. Here's a picture of the Bear children going to a circus or a carnival. They may ride a merry-go-round or ponies. Which face shows how you feel when you go to a circus? (Prompts: Do you like to go to the circus, do you dislike going to the circus, or are you not sure how you feel about going to the circus? Point to the face that shows how you feel. You chose the face that is ____. Is that how you feel when you go to a circus?)

Now let's go on to the next part of the interview. You should tell me any time you need to stop.

5. Here is a picture of two children talking together. Which face shows how you feel when you are talking to another child? (Prompts: Do you like talking to another child, do you dislike talking to another child, or are you not sure how you feel about talking to another child? You chose the face that is ____. Is that how you feel when you talk to another child?)

6. In this picture (same as above), one child is talking and one child is listening. Which face shows how you feel when you are listening to another child talking. (Prompts: Do you like listening to another child talk, do you dislike listening to another child talk, or are you not sure how you feel about listening to another child talk?
You chose the face that is ____. Is that how you would feel if you were listening to another child talking?)

7. Here is a picture of a child playing with and talking to a group of friends. Which face shows how you feel when you talk to a group of friends? (Prompts: Do you like talking to a group of friends, do you dislike talking to a group of friends, or are you not sure how you feel about talking to a group of friends? You chose the face that is _____. Is that how you would feel if you were talking to a group of friends?)

8. Here is a picture of a child talking to a group of children s/he doesn't know very well. This picture shows the first few days of (pre-school, nursery school, day care) when the children don't know each other very well. Which face shows how you feel when you talk to a group of children you don't know very well. (Prompts: Do you like talking to children you don't know well, do you dislike talking to children you don't know well, or are you uncertain how you feel about talking to children you don't know well. You chose the face that is ____. Is that how you feel talking to a group of children you don't know very well?)

9. Here is a picture of a Maria on Sesame Street talking to a small group of children. Which face shows how you feel when you talk to a small group of children? (Prompts: Do you like talking to a small group of people,
202

do you dislike talking to a small group, or are you uncertain how you feel about talking to a small group of children? You chose the face that is ______. Is that how you feel talking to a small group of children?)

10. Here is a picture of two children meeting for the first time. Which face shows how you feel when you meet someone new? (Prompts: Do you like meeting someone new, do you dislike meeting someone new, or are you uncertain how you feel about meeting someone new? You chose the face that is ______. Is that how you feel when you meet someone new?)

11. Here is a picture of a child talking to a teacher. Which face shows how you feel when you talk to your teacher? (Prompts: Do you like talking to your teacher, do you dislike talking to your teacher, or are you uncertain how you feel about talking to your teacher? You chose the face that is ______. Is that how you feel when you talk to your teacher?)

12. Sometime your teacher might not be able to come to school because she might be sick or she might have to go to a meeting. Here is a picture in which Mother Bear brought Little Sister to school. Just for today there is a new teacher. Which face shows how you would feel about talking to the person who took your teacher's place for that day? (Prompt: Would you like talking to the new teacher, would you dislike talking to the new teacher, or
are you uncertain how you feel about talking to the new teacher? You chose the face that is ___. Is that how you would feel when you talked to the new teacher?)

13. Here is a picture of a teacher asking a child a question. The teacher has been reading the children a story. Now she is asking one child a question. Which face shows how you feel when the teacher asks you a question? (Prompts: Do you like it when the teacher asks you a question, do you dislike it when the teacher asks you a question, or are you uncertain how you feel when the teacher asks you a question? You chose the face that is ___. Is that how you feel when the teacher asks you a question?)

14. Here is a picture of children during circle time at (preschool/nursery school). Do you ever talk during circle time? (If no, why not ____). Which face shows how you feel when you talk during circle time? (Prompts: How do you feel when you speak during circle time? Do you like to talk during circle time, do you dislike during circle time, or are you uncertain how you feel about talking during circle time? You chose the face that is ___. Is that how you feel when you talk during circle time?)

15. Here is a picture of Bert from Sesame Street. He has brought a plant, a cattail to talk about during (sharing time, show and tell). Which face shows how you
feel when you bring something for (show and tell or sharing time) and hold it and talk about it? (Prompts: Do you like telling about the thing, do you dislike telling about the thing, or are you uncertain about how you feel about telling about the thing. You chose the face that is ______. Is that how you feel when you tell about something during (show and tell or sharing time)?)

16. Here is a picture of a child and (his/her) mother talking to another adult. The mother has introduced the child to this adult. Which face shows how you feel when you and a parent talk to an adult you don't know very well? (Prompts: Do you like to talk to that adult, do you dislike talking to that adult, or are you uncertain how you feel about talking to that adult? You chose the face that is ______. Is that how you feel about talking to an adult that your mother has introduced you to?)

17. Here is a picture of a child talking to (his/her) mother. Which face shows how you feel when you talk to your mother? (Prompts: Do you like talking to your mother, do you dislike talking to your mother, or are you uncertain how you feel about talking to your mother? You chose the face that is ______. Is that how you feel about talking to your mother?)

18. Here is a picture of a child talking to (his/her) father. Which face shows how you feel when you talk to your father? (Prompts: Do you like talking to your
father, do you dislike talking to your father, or are you uncertain how you feel about talking to your father? You chose the face that is ______. Is that how you feel about talking to your father?)

19. I don't have a picture of us talking together. Which face shows how you feel about talking to me. (Prompts: Do you like talking to me, do you dislike talking to me, or are you uncertain how you feel about talking to me? You chose the face that is ______. Is that how you feel about talking to me?)

That is the end of our interview. Thank you for talking to me. You may return to your class now, and I will talk to someone else.
Interview Number_________________ Date__________

Practice Questions:
1. Being sick 1 2 3
2. Eating at a friend's house 1 2 3
3. Arguing with a friend 1 2 3
4. Going to a circus or a carnival or a birthday party 1 2 3

Actual Questions:
5. Talking to another child 1 2 3
6. Listening to another child 1 2 3
7. Talking to a group of friends 1 2 3
8. Talking to a group of strangers 1 2 3
9. Talking to a small group 1 2 3
10. Meeting someone new 1 2 3
11. Talking to a teacher 1 2 3
12. Talking to a substitute teacher 1 2 3
13. Answering a question 1 2 3
14. Talking during circle time 1 2 3
15. Talking during show & tell 1 2 3
16. Talking to an adult 1 2 3
17. Talking to your mother 1 2 3
18. Talking to your father 1 2 3
19. Talking to the interviewer 1 2 3

General Impression of Interview:
Teacher's Report of Child's Communication Apprehension

<table>
<thead>
<tr>
<th>Child's Name</th>
<th>Child's Number</th>
</tr>
</thead>
</table>

Directions: Please circle the number that indicates the extent to which the statement describes the named child.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Certain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. This child enjoys talking.
2. This child would rather be quiet than talk.
3. This child doesn't like to talk to someone new.
4. This child talks a lot.
5. This child talks more than most children.
6. Talking to other people is one of the things this child likes best.
7. Most of the time this child would rather talk than be quiet.
8. This child doesn't talk much.
9. This child seems to enjoy talking to other children.
10. This child seems to enjoy talking to a small group of friends.
11. This child seems to enjoy talking to the teacher(s).
12. This child seems uncomfortable when a teacher asks him or her questions.
13. This child talks easily to the whole group during circle time.
14. This child seems to enjoy talking to adults.
Mother's Report of Child's CA

Directions: Please circle the number that indicates whether the following statements describe your child.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Unsure</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. My child enjoys talking. 1 2 3 4 5
2. My child would rather be quiet than talk. 1 2 3 4 5
3. My child doesn't like to talk to someone new. 1 2 3 4 5
4. My child talks a lot. 1 2 3 4 5
5. Talking with someone new scares my child. 1 2 3 4 5
6. My child is afraid to talk to people. 1 2 3 4 5
7. My child likes to talk to new people. 1 2 3 4 5
8. Other people think my child is very quiet 1 2 3 4 5
9. My child talks more than most children. 1 2 3 4 5
10. Talking to other people is one of the things my child likes best. 1 2 3 4 5
11. Most of the time my child would rather talk than be quiet. 1 2 3 4 5
12. My child doesn't talk much. 1 2 3 4 5
13. Other people think my child talks a lot. 1 2 3 4 5
14. Most children talk more than my child does. 1 2 3 4 5
15. My child talks a lot. 1 2 3 4 5
16. Please rank your child on the following shyness scale. Circle the number that best describes your child.

<table>
<thead>
<tr>
<th>Very Shy</th>
<th>Somewhat Shy</th>
<th>Occasionally Shy</th>
<th>Seldom Shy</th>
<th>Not at All Shy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX D

PARENTING STRESS INDEX (PSI)
PARENTING STRESS INDEX (PSI)

Richard R. Abidin

Institute of Clinical Psychology

University of Virginia

Directions:

In answering the following questions, please think about the child you are most concerned about.

The questions on the following pages ask you to mark an answer which best describes your feelings. While you may not find an answer which exactly states your feelings, please mark the answer which comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Please mark the degree to which you agree or disagree with the following statements by filling in the number which best matches how you feel. If you are not sure, please fill in #3.

1  2  3  4  5

1 Strongly Agree
2 Agree
3 Not Sure
4 Disagree
5 Strongly Disagree

Example: 1 2 3 4 5  I enjoy going to the movies. (If you sometimes enjoy going to the movies, you would fill in #2.

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Pediatric Psychology Press
320 Terrell Road West
Charlottesville, VA 22901

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1. When my child wants something, my child usually keeps trying to get it.

2. My child is so active that it exhausts me.

3. My child appears disorganized and is easily distracted.

4. Compared to most, my child has more difficulty concentrating and paying attention.

5. My child will often stay occupied with a toy for more than 10 minutes.

6. My child wanders away much more than I expected.

7. My child is much more active than I expected.

8. My child squirms and kicks a great deal when being dressed or bathed.

9. My child can be easily distracted from wanting something.

10. My child rarely does things for me that make me feel good.

11. Most times I feel that my child likes me and wants to be close to me.

12. Sometimes I feel my child doesn't like me and doesn't want to be close to me.

13. My child smiles at me much less than I expected.

14. When I do things for my child I get the feeling that my efforts are not appreciated very much.
15. Which statement best describes your child?
1. almost always likes to play with me.
2. sometimes likes to play with me.
4. Usually doesn't like to play with me.
5. almost never likes to play with me.

16. My child cries and fusses:
1. much less than I had expected,
2. less than I expected,
3. about as much as I expected,
4. much more than I expected,
5. it seems almost constant.

QUESTIONNAIRE CONTINUES ON NEXT PAGE
17. My child seems to cry or fuss more often than most children.

18. When playing, my child doesn't often giggle or laugh.

19. My child generally wakes up in a bad mood.

20. I feel that my child is very moody and easily upset.

21. My child looks a little different than I expected and it bothers me at times.

22. In some areas my child seems to have forgotten past learnings and has gone back to doing things characteristic of younger children.

23. My child doesn't seem to learn as quickly as most children.

24. My child doesn't seem to smile as much as most children.

25. My child does a few things which bother me a great deal.

26. My child is not able to do as much as I expected.

27. My child does not like to be cuddled or touched very much.

28. When my child came home from the hospital, I had doubtful feelings about my ability to handle being a parent.

29. Being a parent is harder than I thought it would be.

30. I feel capable and on top of things when I am caring for my child.

31. Compared to the average child, my child has a great deal of difficulty in getting used to changes in schedules or changes around the house.

32. My child reacts very strongly when something happens that my child doesn't like.
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Not Sure</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

33. Leaving my child with a babysitter is usually a problem.

34. My child gets upset easily over the smallest thing.

35. My child easily notices and overreacts to loud sounds and bright lights.

36. My child's sleeping or eating schedule was much harder to establish than I expected.

37. My child usually avoids a new toy for a while before beginning to play with it.

38. It takes a long time and it is very hard for my child to get used to new things.

39. My child doesn't seem comfortable when meeting strangers.

40. When upset, my child is:
   1. easy to calm down,
   2. harder to calm down than I expected,
   4. very difficult to calm down,
   5. nothing I do helps to calm my child.

41. I have found that getting my child to do something or stop doing something is:
   1. much harder than I expected,
   2. somewhat harder than I expected,
   3. about as hard as I expected,
   4. somewhat easier than I expected,
   5. much easier than I expected.

42. Think carefully and count the number of things which your child does that bothers you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please fill in the number which includes the number of things you counted.
   1. 1-3
   2. 4-5
   3. 6-7
   4. 8-9
   5. 10+
43. When my child cries it usually lasts:
   1. less than 2 minutes,
   2. 2-5 minutes
   3. 5-10 minutes
   4. 10-15 minutes
   5. more than 15 minutes

   1 2 3 4 5
   Strongly Agree Agree Not Disagree Strongly
   Agree Sure Disagree

44. There are some things my child does that really bother me a lot.

45. My child has had more health problems than I expected.

46. As my child has grown older and become more independent, I find myself more worried that my child will get hurt or into trouble.

47. My child turned out to be more of a problem than I had expected.

48. My child seems to be much harder to care for than most.

49. My child is always hanging on me.

50. My child makes more demands on me than most children.

51. I can't make decisions without help.

52. I have had many more problems raising children than I expected.

53. I enjoy being a parent.

54. I feel that I am successful most of the time when I try to get my child to do or not do something.

55. Since I brought my last child home from the hospital, I find that I am not able to take care of this child as well as I thought I could. I need help.

56. I often have the feeling that I cannot handle things very well.
57. When I think about myself as a parent I believe:

1. I can handle anything that happens,
2. I can handle most things pretty well,
3. sometimes I have doubts, but find that I handle most things without any problems,
4. I have some doubts about being able to handle things,
5. I don't think I handle things very well at all.

58. I feel that I am

1. a very good parent,
2. a better than average parent
3. an average parent,
4. a person who has some trouble being a parent,
5. not very good at being a parent.

59. What were the highest levels in school or college you and the child's father/mother have completed?

Mother:

1. 1-8th grade
2. 9-12th grade
3. Vocational or some college
4. College graduate
5. Graduate or professional school

60. Father:

1. 1-8th grade
2. 9-12th grade
3. Vocational or some college
4. College graduate
5. Graduate or professional school

61. How easy is it to understand what your child wants or needs?

1. very easy,
2. easy,
3. somewhat difficult,
4. it is very hard,
5. I usually can't figure out what the problem is
1 Strongly Agree 2 Agree 3 Not Sure 4 Disagree 5 Strongly Disagree

62. It takes a long time for parent to develop close, warm feelings for their children.

63. I expected to have closer and warmer feelings for my child than I do and this bothers me.

64. Sometimes my child does things that bother me just to be mean.

65. When I was young, I never felt comfortable holding or taking care of children.

66. My child knows I am his or her parent and wants me more than other people.

67. The number of children that I have now is too many.

68. Most of my life is spent doing things for my child.

69. I find myself giving up more of my life to meet my children's needs than I ever expected.

70. I feel trapped by my responsibilities as a parent.

71. I often feel that my child's needs control my life.

72. Since having this child I have been unable to do new and different things.

73. Since having a child I feel that I am almost never able to do things that I like to do.

74. It is hard to find a place in our home where I can to be by myself.

75. When I think about the kind of parent I am, I often feel guilty or bad about myself.

76. I am unhappy with the last purchase of clothing I made for myself.

77. When my child misbehaves or fusses too much I feel responsible, as if I didn't do something right.
1 2 3 4 5
Strongly Agree Agree Not Sure Disagree Strongly Disagree

78. I feel everytime my child does something wrong it is really my fault.

79. I often feel guilty about the way I feel towards my child.

80. There are quite a few things that bother me about my life.

81. I felt sadder and more depressed than I expected after leaving the hospital with my baby.

82. I wind up feeling guilty when I get angry at my child and this bothers me.

83. After my child had been home from the hospital for about a month, I notice that I was feeling more sad and depressed than I had expected.

84. Since having my child, my spouse (male/female friend) has not given me as much help and support as I expected.

85. Having a child has caused more problems than I expected in my relationship with my spouse (male/female friend).

86. Since having a child my spouse (or male/female friend) don't do as many things together.

87. Since having a child my spouse (or male/female friend) and I don't spend as much time together as a family as I had expected.

88. Since having my last child, I have had less interest in sex.

89. Having a child seems to have increased the number of problems we have with in-laws and relatives.

90. Having children has been much more expensive than I had expected.

91. I feel alone and without friends.

92. When I go to a party I usually expect not to enjoy myself.
I am not as interested in people as I used to be.

I often have the feeling that other people my own age don't particularly like my company.

When I run into a problem taking care of my children I have a lot of people to whom I can talk to get help or advice.

Since having children I have a lot fewer chances to see my friends and to make new friends.

During the past six months I have been sicker than usual or have had more aches and pains than I normally do.

Physically, I feel good most of the time.

Having a child has caused changes in the way I sleep.

I don't enjoy things as I used to.

Since I've had my child:
1. I have been sick a great deal,
2. I haven't felt as good,
4. I haven't noticed any change in my health,
5. I have been healthier.

STOP HERE - unless asked to do items below
During the last 12 months, have any of the following events occurred in your immediate family? Please check on the answer sheet any that have happened.

102. Divorce
103. Marital reconciliation
104. Marriage
105. Separation
106. Pregnancy
107. Other relative moved into household
108. Income increased substantially (20% or more)
109. Went deeply into debt
110. Moved to new location
111. Promotion at work
112. Income decreased substantially
113. Alcohol or drug problem
114. Death of close family friend
115. Began new job
116. Entered new school
117. Trouble with superiors at work
118. Trouble with teachers at school
119. Legal problems
120. Death of immediate family member
LIST OF REFERENCES


